

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant :	Anderson et al.	) Group Art Unit: Unknown
Appl. No. :	To be assigned	)
Filed :	Herewith	) I hereby certify that this correspondence and all marked attachments are being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on
For :	PAIN SIGNALING MOLECULES	) <u>May 4, 2001</u> (Date)
Examiner :	Unknown	) <u>Ginger R. Dreger</u> Ginger R. Dreger, Reg. No. 33,055

SEQUENCE SUBMISSION STATEMENT

Assistant Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

A copy of the Sequence Listing in computer readable form as required by 37 C.F.R. §1.821(e) is submitted herewith.

As required by 37 C.F.R. §1.82(e), the data on the enclosed disk is identical to the Sequence Listing in the application filed herewith.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: May 4, 2001

By: Ginger R. Dreger  
Ginger R. Dreger  
Registration No. 33,055  
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Sixteenth Floor  
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SEQUENCE LISTING

<110> Anderson, David J.  
Dong, Xinzhou  
Zylka, Mark  
Simon, Melvin  
Han, Sang-kyou

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Cys Leu Ala Leu Asn Phe Phe Thr Ala Ala Tyr Leu Met Phe Leu Phe		
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Gly	Cys	Leu	Ala	Leu	Asn	Phe	Phe	Thr	Ala	Ala	Tyr	Leu	Met	Phe	Leu	
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Phe	Val	Val	Leu	Cys	Leu	Ser	Ser	Leu	Ala	Leu	Val	Ala	Arg	Leu	Phe	
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Cys	Gly	Thr	Gly	Gln	Ile	Lys	Leu	Thr	Arg	Leu	Tyr	Val	Thr	Ile	Ile	
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Leu	Ser	Ile	Leu	Val	Phe	Leu	Leu	Cys	Gly	Leu	Pro	Phe	Gly	Ile	His	
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Trp	Phe	Leu	Leu	Phe	Lys	Ile	Lys	Asp	Asp	Phe	His	Val	Phe	Asp	Leu	
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Gly	Phe	Tyr	Leu	Ala	Ser	Val	Val	Leu	Thr	Ala	Ile	Asn	Ser	Cys	Ala	
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ccc ttt gtc atc tac tgc atc ctg tta ttc aag att aag gat gat ttc Pro Phe Val Ile Tyr Cys Ile Leu Leu Phe Lys Ile Lys Asp Asp Phe 225	230	235	844
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Lys His Gln Thr Leu Lys Met Val Leu Gln Ser Ala Leu Gln Asp Thr		
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Phe Cys Phe His Thr Ile Lys Arg Val Leu Tyr Ile Thr Gly Leu Ser			
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Met Leu Ser Ala Ile Ser Thr Glu Arg Cys Leu Ser Val Leu Cys Pro			
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 <222> (1)...(450)  
  
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 1 5 10 15  
  
 gtc atg tgt gct gtc atc tgg gtc ctg tcc ctg ttg atc tgc att ctg 96  
 Val Met Cys Ala Val Ile Trp Val Leu Ser Leu Leu Ile Cys Ile Leu  
 20 25 30  
  
 aat agt tat ttc tgc ggt ttc tta aat acc caa tat aaa aat gaa aat 144  
 Asn Ser Tyr Phe Cys Gly Phe Leu Asn Thr Gln Tyr Lys Asn Glu Asn  
 35 40 45  
  
 ggg tgt ctg gca ttg agc ttc ttt act gct gca tac ctg atg ttt ttg 192  
 Gly Cys Leu Ala Leu Ser Phe Phe Thr Ala Ala Tyr Leu Met Phe Leu  
 50 55 60  
  
 ttt gtg gtc ctc tgt ctg tcc agc ctg gct ctg gtg gcc agg ttg ttc 240  
 Phe Val Val Leu Cys Leu Ser Ser Leu Ala Leu Val Ala Arg Leu Phe  
 65 70 75 80  
  
 tgt ggt gct agg aat atg aaa ttt acc aga tta ttc gtg acc atc atg 288  
 Cys Gly Ala Arg Asn Met Lys Phe Thr Arg Leu Phe Val Thr Ile Met  
 85 90 95  
  
 ctg acc gtt ttg gtt ttt ctt ctc tgt ggg ttg ccc tgg ggc atc acc 336  
 Leu Thr Val Leu Val Phe Leu Leu Cys Gly Leu Pro Trp Gly Ile Thr  
 100 105 110  
  
 tgg ttc ctg tta ttc tgg att gca cct ggt gtg ttt gta cta gat tat 384  
 Trp Phe Leu Leu Phe Trp Ile Ala Pro Gly Val Phe Val Leu Asp Tyr  
 115 120 125  
  
 agc cct ctt ctg gtc cta act gct att aac agc tgt gcc aac ccc att 432  
 Ser Pro Leu Leu Val Leu Thr Ala Ile Asn Ser Cys Ala Asn Pro Ile  
 130 135 140  
  
 att tac ttc ttc gtc ggc 450  
 Ile Tyr Phe Phe Val Gly  
 145 150

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<211> 150  
<212> PRT  
<213> *Mus musculus*

<400> 8  
 Leu Cys Arg Ile Trp Tyr His Cys Arg Arg Pro Glu His Thr Ser Thr  
 1 5 10 15  
 Val Met Cys Ala Val Ile Trp Val Leu Ser Leu Leu Ile Cys Ile Leu  
 20 25 30  
 Asn Ser Tyr Phe Cys Gly Phe Leu Asn Thr Gln Tyr Lys Asn Glu Asn  
 35 40 45  
 Gly Cys Leu Ala Leu Ser Phe Phe Thr Ala Ala Tyr Leu Met Phe Leu  
 50 55 60  
 Phe Val Val Leu Cys Leu Ser Ser Leu Ala Leu Val Ala Arg Leu Phe  
 65 70 75 80  
 Cys Gly Ala Arg Asn Met Lys Phe Thr Arg Leu Phe Val Thr Ile Met  
 85 90 95  
 Leu Thr Val Leu Val Phe Leu Leu Cys Gly Leu Pro Trp Gly Ile Thr  
 100 105 110  
 Trp Phe Leu Leu Phe Trp Ile Ala Pro Gly Val Phe Val Leu Asp Tyr  
 115 120 125  
 Ser Pro Leu Leu Val Leu Thr Ala Ile Asn Ser Cys Ala Asn Pro Ile  
 130 135 140  
 Ile Tyr Phe Phe Val Gly  
 145 150

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 <211> 459  
 <212> DNA  
 <213> Mus musculus

<220>  
 <221> CDS  
 <222> (1)...(459)

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 Leu Cys Pro Thr Trp Tyr Arg Cys His Arg Pro Val His Thr Ser Thr  
 1 5 10 15  
 gtc atg tgt gct gtg atc tgg gtc cta tcc ctg ttg atc tgc att ctg 96  
 Val Met Cys Ala Val Ile Trp Val Leu Ser Leu Leu Ile Cys Ile Leu  
 20 25 30  
 aat agc tat ttc tgt gct gtc tta cat acc aga tat gat aat gac aat 144  
 Asn Ser Tyr Phe Cys Ala Val Leu His Thr Arg Tyr Asp Asn Asp Asn  
 35 40 45  
 gag tgt ctg gca act aac atc ttt acc gcc tcg tac atg ata ttt ttg 192  
 Glu Cys Leu Ala Thr Asn Ile Phe Thr Ala Ser Tyr Met Ile Phe Leu  
 50 55 60  
 ctt gtg gtc ctc tgt ctg tcc agc ctg gct ctg ctg gcc agg ttg ttc 240  
 Leu Val Val Leu Cys Leu Ser Ser Leu Ala Leu Leu Ala Arg Leu Phe  
 65 70 75 80  
 tgt ggc gct ggg cag atg aag ctt acc aga ttt cat gtg acc atc ttg 288  
 Cys Gly Ala Gly Gln Met Lys Leu Thr Arg Phe His Val Thr Ile Leu  
 85 90 95

ctg acc ctt ttg gtt ttt ctc ctc tgc ggg ttg ccc ttt gtc atc tac 336  
Leu Thr Leu Leu Val Phe Leu Leu Cys Gly Leu Pro Phe Val Ile Tyr  
100 105 110

tgc atc ctg tta ttc aag att aag gat gat ttc cat gta tta gat gtt 384  
Cys Ile Leu Leu Phe Lys Ile Lys Asp Asp Phe His Val Leu Asp Val  
115 120 125

aat ctt tat cta gca tta gaa gtc ctg act gct att aac agc tgt gcc 432  
Asn Leu Tyr Leu Ala Leu Glu Val Leu Thr Ala Ile Asn Ser Cys Ala  
130 135 140

aac ccc atc atc tac ttc ttc gtc gga 459  
Asn Pro Ile Ile Tyr Phe Phe Val Gly  
145 150

<210> 10  
<211> 153  
<212> PRT  
<213> Mus musculus

<400> 10  
Leu Cys Pro Thr Trp Tyr Arg Cys His Arg Pro Val His Thr Ser Thr  
1 5 10 15  
Val Met Cys Ala Val Ile Trp Val Leu Ser Leu Leu Ile Cys Ile Leu  
20 25 30  
Asn Ser Tyr Phe Cys Ala Val Leu His Thr Arg Tyr Asp Asn Asp Asn  
35 40 45  
Glu Cys Leu Ala Thr Asn Ile Phe Thr Ala Ser Tyr Met Ile Phe Leu  
50 55 60  
Leu Val Val Leu Cys Leu Ser Ser Leu Ala Leu Leu Ala Arg Leu Phe  
65 70 75 80  
Cys Gly Ala Gly Gln Met Lys Leu Thr Arg Phe His Val Thr Ile Leu  
85 90 95  
Leu Thr Leu Leu Val Phe Leu Leu Cys Gly Leu Pro Phe Val Ile Tyr  
100 105 110  
Cys Ile Leu Leu Phe Lys Ile Lys Asp Asp Phe His Val Leu Asp Val  
115 120 125  
Asn Leu Tyr Leu Ala Leu Glu Val Leu Thr Ala Ile Asn Ser Cys Ala  
130 135 140  
Asn Pro Ile Ile Tyr Phe Phe Val Gly  
145 150

<210> 11  
<211> 2853  
<212> DNA  
<213> Mus musculus

<220>  
<221> CDS  
<222> (1820) ... (2734)

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aagttatgtgg ttcaatataa cagacaaata catcatgcc tggaaattgc tttgaacaat 120

gctaagccca taatgggaag taaaagattt gcttggttcc cacttcttc cttttcttatt 180  
 ccgtttggac catagtggct agtgtctt cacaagatcac aagaaggagg ctctgcattt 240  
 atttctgagt gcctgtctgc atcctccctt ggcctggagg tcctctatga aatcctgaag 300  
 taagaaagaa atgttccaga ctctgatttt tcttcctaga ccaatgctat tcccttccat 360  
 gttgccaaca acttctcatc actctttctg tactttctt tagctgggtg gtttcttaat 420  
 ctacagtatt gactgtcatg tcaaagttgg gtatttttg gctttagata ttcttctct 480  
 ggctttctc ccatccacac ataataaaaaa cactgaggtg atgacactaa gggactgctc 540  
 aaagaaaaag ggtgggttcc tgggctttgg gtttattaaat aatttgcctg tcctctgcca 600  
 gcctctatca actcccctaa aacacaaaaaa taattgttcc tagcaggcaa gcacgacctg 660  
 acaattaatt aatgatcata aaaagtgcattataaacatc tgaaaacctc ataataaaaac 720  
 tcaacacattt atacagttag tatgttgtgg ggtctgcata aatccaacaa aactccaatg 780  
 gagttggtact cagctattaa aaatgaggaa ttcacgaaat tcttagccaa atgattagaa 840  
 gtagaaaaata tgatcctgag tgagaaaaaaga acaggcttgg tatgtactca ctgataagt 900  
 gatactagcc caaaagctgc aaataatcag gataaaaattt acagaccaca tgaacctcaa 960  
 taagaaggaa gaccaaagta tggcggttc ggtccttctt agaaggagaa caaaaactc 1020  
 ccaagagcaa atatggagat aaagtgtaga acaggcacta aaggaaaaagt cacccagaga 1080  
 atgttccacc tggggatca tccatatac agttacccaa cccagacact ttatggatg 1140  
 ccaaggatgt aatgctgaca tagctgttc ctaagaggcc atgccagaca ttacaaata 1200  
 cagaggccca agttagcaac caaccattag actgagcaca gggtcctaa tagaggagtc 1260  
 agagaaaaagga ctgagggagt tgaaggggtt tgcattccccaa taagaaaaaac aacaacatga 1320  
 accaacaaga cactctcccc accaacccttca tgaactccta gggactaagc catcaacaaa 1380  
 agagtagacaca tggctccaga tgcataatgtt gcagaggatg gccatatatcat gcattgtatgg 1440  
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 gagaggtgga agtgggtgtt tgggttgagc aacaccctca cagaagcagg gggagggagg 1560  
 atgagatggg ggttccagg aaggggggaa gcagggaaagg ggataacatt ttaaatttaa 1620  
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 caacaacaaa aaaaagaaat taaaagttgt gttcatagt aaggcctcat ttcttcttgc 1740  
 tgttcccagc aacaccagtg cagggtttctt ggcctaaac acctcagcct cggcaatggc 1800  
 acccacaaca acaaatcca atg aac gaa acc atc cct gga agt att gac atc 1852

Met Asn Glu Thr Ile Pro Gly Ser Ile Asp Ile  
 1 5 10

gag acc ctg atc cca aac ttg atg atc atc ttc gga ctg gtc ggg 1900  
 Glu Thr Leu Ile Pro Asn Leu Met Ile Ile Ile Phe Gly Leu Val Gly  
 15 20 25

ctg aca gga aat gtc att ttg ttt tgg ctc ctg ggc ttc cac ttg cac 1948  
 Leu Thr Gly Asn Val Ile Leu Phe Trp Leu Leu Gly Phe His Leu His  
 30 35 40

agg aat gcc ttc tta gtc tac atc cta aac ttg gcc ctg gct gac ttc 1996  
 Arg Asn Ala Phe Leu Val Tyr Ile Leu Asn Leu Ala Leu Ala Asp Phe  
 45 50 55

ctc ttc ctt ctc tgt cac atc ata aat tcc aca atg ctt ctc aag 2044  
 Leu Phe Leu Leu Cys His Ile Ile Asn Ser Thr Met Leu Leu Leu Lys  
 60 65 70 75

gtt cac cta ccc aac aat att ttg aac cat tgc ttt gac atc atc atg 2092  
 Val His Leu Pro Asn Asn Ile Leu Asn His Cys Phe Asp Ile Ile Met  
 80 85 90

aca gtt ctc tac atc aca ggc ctg agc atg ctc agt gcc atc agc act 2140  
 Thr Val Leu Tyr Ile Thr Gly Leu Ser Met Leu Ser Ala Ile Ser Thr  
 95 100 105

gag cgcc tgc ctg tct gtc ctg tgc ccc atc tgg tat cgg tgc cgcc 2188

Glu Arg Cys Leu Ser Val Leu Cys Pro Ile Trp Tyr Arg Cys Arg Arg			
110	115	120	
cca gaa cac aca tca act gtc ctg tgt gct gtg atc tgg ttc ctg ccc	2236		
Pro Glu His Thr Ser Thr Val Leu Cys Ala Val Ile Trp Phe Leu Pro			
125	130	135	
ctg ttg atc tgc att ctg aat gga tat ttc tgt cat ttc ttt ggt ccc	2284		
Leu Leu Ile Cys Ile Leu Asn Gly Tyr Phe Cys His Phe Phe Gly Pro			
140	145	150	155
aaa tat gta att gac tct gtg tgt ctg gca acg aac ttc ttt atc aga	2332		
Lys Tyr Val Ile Asp Ser Val Cys Leu Ala Thr Asn Phe Phe Ile Arg			
160	165	170	
aca tac ccg atg ttt ttg ata gtc ctc tgt ctg tcc acc ctg gct	2380		
Thr Tyr Pro Met Phe Leu Phe Ile Val Leu Cys Leu Ser Thr Leu Ala			
175	180	185	
ctg ctg gcc agg ttg ttc tgt ggt ggt ggg aag acg aaa ttt acc aga	2428		
Leu Leu Ala Arg Leu Phe Cys Gly Gly Gly Lys Thr Lys Phe Thr Arg			
190	195	200	
tta ttc gtg acc atc atg ctg acc gtt ttg gtt ttt ctt ctc tgt ggg	2476		
Leu Phe Val Thr Ile Met Leu Thr Val Leu Val Phe Leu Leu Cys Gly			
205	210	215	
ttg ccc ctg ggc ttc ttc tgg ttt ctg gtg ccg tgg att aac cgt gat	2524		
Leu Pro Leu Gly Phe Phe Trp Phe Leu Val Pro Trp Ile Asn Arg Asp			
220	225	230	235
ttc agt gta cta gat tat ata ctt ttt cag aca tca ctt gtc cta act	2572		
Phe Ser Val Leu Asp Tyr Ile Leu Phe Gln Thr Ser Leu Val Leu Thr			
240	245	250	
tct gtt aac agc tgt gcc aac ccc atc att tac ttc ttt gtg ggc tcc	2620		
Ser Val Asn Ser Cys Ala Asn Pro Ile Ile Tyr Phe Phe Val Gly Ser			
255	260	265	
ttc agg cat cgg ttg aag cac aag acc ctc aaa atg gtt ctc cag agt	2668		
Phe Arg His Arg Leu Lys His Lys Thr Leu Lys Met Val Leu Gln Ser			
270	275	280	
gca ttg cag gac act cct gag aca cct gaa aac atg gtg gag atg tca	2716		
Ala Leu Gln Asp Thr Pro Glu Thr Pro Glu Asn Met Val Glu Met Ser			
285	290	295	
aga agc aaa gca gag ccg tgatgaagag cctctacctg gacctcagag	2764		
Arg Ser Lys Ala Glu Pro			
300	305		
gtggcttgg attgaggact gccctgctgc acttgaccac tgtccactct cctctcagct	2824		
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<210> 12

<211> 305

<212> PRT

<213> Mus musculus

<400> 12

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Asn Leu Met Ile Ile Ile Phe Gly Leu Val Gly Leu Thr Gly Asn Val  
20 25 30  
Ile Leu Phe Trp Leu Leu Gly Phe His Leu His Arg Asn Ala Phe Leu  
35 40 45  
Val Tyr Ile Leu Asn Leu Ala Leu Ala Asp Phe Leu Phe Leu Leu Cys  
50 55 60  
His Ile Ile Asn Ser Thr Met Leu Leu Leu Lys Val His Leu Pro Asn  
65 70 75 80  
Asn Ile Leu Asn His Cys Phe Asp Ile Ile Met Thr Val Leu Tyr Ile  
85 90 95  
Thr Gly Leu Ser Met Leu Ser Ala Ile Ser Thr Glu Arg Cys Leu Ser  
100 105 110  
Val Leu Cys Pro Ile Trp Tyr Arg Cys Arg Arg Pro Glu His Thr Ser  
115 120 125  
Thr Val Leu Cys Ala Val Ile Trp Phe Leu Pro Leu Leu Ile Cys Ile  
130 135 140  
Leu Asn Gly Tyr Phe Cys His Phe Phe Gly Pro Lys Tyr Val Ile Asp  
145 150 155 160  
Ser Val Cys Leu Ala Thr Asn Phe Phe Ile Arg Thr Tyr Pro Met Phe  
165 170 175  
Leu Phe Ile Val Leu Cys Leu Ser Thr Leu Ala Leu Leu Ala Arg Leu  
180 185 190  
Phe Cys Gly Gly Lys Thr Lys Phe Thr Arg Leu Phe Val Thr Ile  
195 200 205  
Met Leu Thr Val Leu Val Phe Leu Leu Cys Gly Leu Pro Leu Gly Phe  
210 215 220  
Phe Trp Phe Leu Val Pro Trp Ile Asn Arg Asp Phe Ser Val Leu Asp  
225 230 235 240  
Tyr Ile Leu Phe Gln Thr Ser Leu Val Leu Thr Ser Val Asn Ser Cys  
245 250 255  
Ala Asn Pro Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg His Arg Leu  
260 265 270  
Lys His Lys Thr Leu Lys Met Val Leu Gln Ser Ala Leu Gln Asp Thr  
275 280 285  
Pro Glu Thr Pro Glu Asn Met Val Glu Met Ser Arg Ser Lys Ala Glu  
290 295 300  
Pro  
305

<210> 13

<211> 3391

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (170)...(574)

<400> 13

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aaaacatggc	caagccaact	ggcaatactc	catactgagt	tcttagggtg	ccatggaa	1694
cacatggatc	taacaaatgt	acaggaagat	agatttctgg	agaccatgtt	cacccttct	1754
gaatatgaag	gggaaggaag	tgttggaat	gagcaagatg	tgcaaggtag	ttagcaactg	1814
ccttgcgtgt	ggagaagcta	agggaaaga	gacagggtgg	ggttaggatt	ccgcatagct	1874
cccgatgtct	atccatcc	ctcttgcc	cttccccct	gttccccag	gtaccttaca	1934
tccagctact	ccttggta	ctgcaggctt	ctggggtaaa	tagggactgg	gaggggcattc	1994
tccagagggc	ctaacaaga	gatataaccc	aagaggtaag	taccctaaa	acttcattat	2054
agtcaccaag	acacccctt	gcaaaagacc	ggcacctat	aagaatttc	caaagcttt	2114
ccaggcaagg	ccaggccaga	gagcagagga	agtacctag	tagcaaagt	aatgacaaga	2174
gctgcattgg	ttcaggttga	ctcttcatcc	ttaaccctt	ggcatttggg	aacactatgg	2234
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tccctgaata	caggcagctc	aggaccaacc	ctggggttgt	tgaataactg	cctagtgtt	2654
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gatgagctca	cagccagctc	acttggaaatc	cgcacccat	gcacccatt	gtcctgagag	2834
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aacagaaggg	agtttgggaa	taatcacat	gocaggaaat	cttcaagttc	tagacatctt	2954
tcatagccac	atcagtac	gttcccaac	ccctggccc	caaggttaatg	acttagcaaa	3014
caaaatcaaa	gagccttga	gaaaatatcc	caaatactgg	ttaactcccc	ccgccttgc	3074
ccaaactccc	cacaaaagt	atagtccag	agtgagcaga	gtcacaccca	acatcttga	3134
aaattttgcc	aaagaccatt	gcctcatgaa	aactggggtg	gggataaacct	gtgagtgac	3194
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gaagacaaga	gcaacatcca	cagcaccatc	ccacccgact	gtattacggg	cttctgtcgc	3314
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<210> 14

<211> 135

<212> PRT

<213> Mus musculus

<400> 14

Met Glu V

1

Ser Lys Asp Leu Le

Ser Arg

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Ile Tyr His Lys Pro Ile Ile Met Ser Val Gly Ala Ala Ile Leu			
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Leu Phe Gly Val Ala Ile Thr Cys Val Ala Tyr Ile Leu Glu Glu Lys			
65	70	75	80
His Lys Val Val Gln Val Leu Arg Met Ile Gly Pro Ala Phe Leu Ser			
85	90	95	
Leu Gly Leu Met Met Leu Val Cys Gly Leu Val Trp Val Pro Ile Ile			
100	105	110	
Lys Lys Lys Gln Lys Gln Arg Gln Lys Ser Asn Phe Phe Gln Ser Leu			
115	120	125	
Lys Phe Phe Leu Leu Asn Arg			
130	135		

<210> 15  
 <211> 2040  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (328)...(1293)

<400> 15

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tcctaatgtt	attcccatgt	tagcacagaa	cttgcgtggc	agttagagaga	ggtcaggcgtt	120
cagagtcage	aagaactgga	tttcaaactg	gatttgagga	cccccacctt	ttgataaggtg	180
acttattctc	tgtgagtcctc	tgtatctgcc	tctttaatg	aggaagtaaa	tcccacatgg	240
cagggtggtg	gggagaatca	gagatcatac	agctggtgat	cacaactggt	ttctgttcc	300
agggtcacca	gactagggtt	tctgagc	atg	gat	cca acc atc tca acc ttg gac	354
			Met	Asp	Pro Thr Ile Ser Thr Leu Asp	
			1	5		

aca gaa ctg aca cca atc aac gga act gag gag act ctt tgc tac aag 402  
 Thr Glu Leu Thr Pro Ile Asn Gly Thr Glu Glu Thr Leu Cys Tyr Lys  
 10 15 20 25

cag acc ttg agc ctc acg gtg ctg acg tgc atc gtt tcc ctt gtc ggg 450  
 Gln Thr Leu Ser Leu Thr Val Leu Thr Cys Ile Val Ser Leu Val Gly  
 30 35 40

ctg aca gga aac gca gtt gtg ctc tgg ctc ctg ggc tgc cgc atg cgc 498  
 Leu Thr Gly Asn Ala Val Val Leu Trp Leu Leu Gly Cys Arg Met Arg  
 45 50 55

agg aac gcc ttc tcc atc tac atc ctc aac ttg gcc gca gca gac ttc 546  
 Arg Asn Ala Phe Ser Ile Tyr Ile Leu Asn Leu Ala Ala Asp Phe  
 60 65 70

ctc ttc ctc agc ggc cgc ctt ata tat tcc ctg tta agc ttc atc agt 594  
 Leu Phe Leu Ser Gly Arg Leu Ile Tyr Ser Leu Leu Ser Phe Ile Ser  
 75 80 85

atc ccc cat acc atc tct aaa atc ctc tat cct gtg atg atg ttt tcc 642  
 Ile Pro His Thr Ile Ser Lys Ile Leu Tyr Pro Val Met Met Phe Ser  
 90 95 100 105

tac ttt gca ggc ctg agc ttt ctg agt gcc gtg agc acc gag cgc tgc 690  
 Tyr Phe Ala Gly Leu Ser Phe Leu Ser Ala Val Ser Thr Glu Arg Cys  
 110 115 120

ctg tcc gtc ctg tgg ccc atc tgg tac cgc tgc cac cgc ccc aca cac 738  
 Leu Ser Val Leu Trp Pro Ile Trp Tyr Arg Cys His Arg Pro Thr His  
 125 130 135

ctg tca gcg gtg gtg tgt gtc ctg ctc tgg gcc ctg tcc ctg ctg cgg 786  
 Leu Ser Ala Val Val Cys Val Leu Leu Trp Ala Leu Ser Leu Leu Arg  
 140 145 150

agc atc ctg gag tgg atg tta tgt ggc ttc ctg ttc agt ggt gct gat 834  
 Ser Ile Leu Glu Trp Met Leu Cys Gly Phe Leu Phe Ser Gly Ala Asp

155

160

165

tct gct tgg tgt caa aca tca gat ttc atc aca gtc gcg tgg ctg att 882  
 Ser Ala Trp Cys Gln Thr Ser Asp Phe Ile Thr Val Ala Trp Leu Ile  
 170 175 180 185

ttt tta tgt gtg gtt ctc tgt ggg tcc agc ctg gtc ctg ctg atc agg 930  
 Phe Leu Cys Val Val Leu Cys Gly Ser Ser Leu Val Leu Leu Ile Arg  
 190 195 200

att ctc tgt gga tcc cgg aag ata ccg ctg acc agg ctg tac gtg acc 978  
 Ile Leu Cys Gly Ser Arg Lys Ile Pro Leu Thr Arg Leu Tyr Val Thr  
 205 210 215

atc ctg ctc aca gta ctg gtc ttc ctc ctc tgt ggc ctg ccc ttt ggc 1026  
 Ile Leu Leu Thr Val Leu Val Phe Leu Leu Cys Gly Leu Pro Phe Gly  
 220 225 230

att cag ttt ttc cta ttt tta tgg atc cac gtg gac agg gaa gtc tta 1074  
 Ile Gln Phe Phe Leu Phe Leu Trp Ile His Val Asp Arg Glu Val Leu  
 235 240 245

ttt tgt cat gtt cat cta gtt tct att ttc ctg tcc gct ctt aac agc 1122  
 Phe Cys His Val His Leu Val Ser Ile Phe Leu Ser Ala Leu Asn Ser  
 250 255 260 265

agt gcc aac ccc atc att tac ttc ttc gtg ggc tcc ttt agg cag cgt 1170  
 Ser Ala Asn Pro Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg Gln Arg  
 270 275 280

caa aat agg cag aac ctg aag ctg gtt ctc cag agg gct ctg cag gac 1218  
 Gln Asn Arg Gln Asn Leu Lys Leu Val Leu Gln Arg Ala Leu Gln Asp  
 285 290 295

gcg tct gag gtg gat gaa ggt gga ggg cag ctt cct gag gaa atc ctg 1266  
 Ala Ser Glu Val Asp Glu Gly Gly Gln Leu Pro Glu Glu Ile Leu  
 300 305 310

gag ctg tcg gga agc aga ttg gag cag tgaggaagag cctctgccct 1313  
 Glu Leu Ser Gly Ser Arg Leu Glu Gln  
 315 320

gtcagacagg actttgagag caacactgcc ctgccaccct tgacaattat atgcgttttt 1373  
 ctttagccttc tgcctcagaa atgtctcagt ggttcctcaa ggtcttcaaa tagatgttta 1433  
 tctaacctga cagttgcgtt tttcacccat ggaaagcatt agtctgacag tacaatgttt 1493  
 agattctcct tcatattacc aacacatttt ccctgttata tcacactgaa tctttcctac 1553  
 agaacacttt ttctgcaatt ttctttgtaa taaaaggagt tcctgtacaa aaccctaaaa 1613  
 cactcttat acttcttcc tacctgatag catcaaaaag gaagattcct tattaatctc 1673  
 tcagactatg ttcccctgaa aatcatgttc cttctatga ctggaggcat tactgcagtt 1733  
 agaagctcga ttcttaataa gtgagttctg ctatctctac attccattga attctcagat 1793  
 acagagcaa ataatgtcct tagagacaga ctctcttcc ataaaaacac tctcacctat 1853  
 tggtttata aaaagtcttc ccctgtcatt tggtcacagc atggtgatat gttggccttg 1913  
 gtttcttagta aagacaactg tggcccccttc cccttgagaa cttaaagtg cttatttagc 1973  
 tcttcctgga ctaatggacc agtgaggagc ccataaatgt gccccagttc tattttggcc 2033  
 attggaa 2040

<211> 322  
<212> PRT  
<213> Homo sapiens

<400> 16  
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Gly Thr Glu Glu Thr Leu Cys Tyr Lys Gln Thr Leu Ser Leu Thr Val  
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Leu Thr Cys Ile Val Ser Leu Val Gly Leu Thr Gly Asn Ala Val Val  
35 40 45  
Leu Trp Leu Leu Gly Cys Arg Met Arg Arg Asn Ala Phe Ser Ile Tyr  
50 55 60  
Ile Leu Asn Leu Ala Ala Asp Phe Leu Phe Leu Ser Gly Arg Leu  
65 70 75 80  
Ile Tyr Ser Leu Leu Ser Phe Ile Ser Ile Pro His Thr Ile Ser Lys  
85 90 95  
Ile Leu Tyr Pro Val Met Phe Ser Tyr Phe Ala Gly Leu Ser Phe  
100 105 110  
Leu Ser Ala Val Ser Thr Glu Arg Cys Leu Ser Val Leu Trp Pro Ile  
115 120 125  
Trp Tyr Arg Cys His Arg Pro Thr His Leu Ser Ala Val Val Cys Val  
130 135 140  
Leu Leu Trp Ala Leu Ser Leu Leu Arg Ser Ile Leu Glu Trp Met Leu  
145 150 155 160  
Cys Gly Phe Leu Phe Ser Gly Ala Asp Ser Ala Trp Cys Gln Thr Ser  
165 170 175  
Asp Phe Ile Thr Val Ala Trp Leu Ile Phe Leu Cys Val Val Leu Cys  
180 185 190  
Gly Ser Ser Leu Val Leu Leu Ile Arg Ile Leu Cys Gly Ser Arg Lys  
195 200 205  
Ile Pro Leu Thr Arg Leu Tyr Val Thr Ile Leu Leu Thr Val Leu Val  
210 215 220  
Phe Leu Leu Cys Gly Leu Pro Phe Gly Ile Gln Phe Phe Leu Phe Leu  
225 230 235 240  
Trp Ile His Val Asp Arg Glu Val Leu Phe Cys His Val His Leu Val  
245 250 255  
Ser Ile Phe Leu Ser Ala Leu Asn Ser Ser Ala Asn Pro Ile Ile Tyr  
260 265 270  
Phe Phe Val Gly Ser Phe Arg Gln Arg Gln Asn Arg Gln Asn Leu Lys  
275 280 285  
Leu Val Leu Gln Arg Ala Leu Gln Asp Ala Ser Glu Val Asp Glu Gly  
290 295 300  
Gly Gly Gln Leu Pro Glu Glu Ile Leu Glu Leu Ser Gly Ser Arg Leu  
305 310 315 320  
Glu Gln

<210> 17  
<211> 1300  
<212> DNA  
<213> Homo sapiens

<220>  
<221> CDS  
<222> (171) ... (1160)

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 caggggcggtaattaccaca taacaggctg gtcataaaaa tcagtgaaca tgcagcagg 120  
 gctcaagtct tgttttgtt tccaggggca ccagtggagg ttttctgagc atg gat 176  
 Met Asp  
 1

cca acc acc ccg gcc tgg gga aca gaa agt aca aca gtg aat gga aat 224  
 Pro Thr Thr Pro Ala Trp Gly Thr Glu Ser Thr Thr Val Asn Gly Asn  
 5 10 15

gac caa gcc ctt ctt ctg ctt tgt ggc aag gag acc ctg atc ccg gtc 272  
 Asp Gln Ala Leu Leu Leu Cys Gly Lys Glu Thr Leu Ile Pro Val  
 20 25 30

ttc ctg atc ctt ttc att gcc ctg gtc ggg ctg gta gga aac ggg ttt 320  
 Phe Leu Ile Leu Phe Ile Ala Leu Val Gly Leu Val Gly Asn Gly Phe  
 35 40 45 50

gtg ctc tgg ctc ctg ggc ttc cgc atg cgc agg aac gcc ttc tct gtc 368  
 Val Leu Trp Leu Leu Gly Phe Arg Met Arg Arg Asn Ala Phe Ser Val  
 55 60 65

tac gtc ctc agc ctg gcc ggg gcc gac ttc ctc ttc ctc tgc ttc cag 416  
 Tyr Val Leu Ser Leu Ala Gly Ala Asp Phe Leu Phe Leu Cys Phe Gln  
 70 75 80

att ata aat tgc ctg gtg tac ctc agt aac ttc ttc tgt tcc atc tcc 464  
 Ile Ile Asn Cys Leu Val Tyr Leu Ser Asn Phe Phe Cys Ser Ile Ser  
 85 90 95

atc aat ttc cct agc ttc ttc acc act gtg atg acc tgt gcc tac ctt 512  
 Ile Asn Phe Pro Ser Phe Phe Thr Thr Val Met Thr Cys Ala Tyr Leu  
 100 105 110

gca ggc ctg agc atg ctg agc acc gtc agc acc gag cgc tgc ctg tcc 560  
 Ala Gly Leu Ser Met Leu Ser Thr Val Ser Thr Glu Arg Cys Leu Ser  
 115 120 125 130

gtc ctg tgg ccc atc tgg tat cgc tgc cgc ccc aga cac ctc tca 608  
 Val Leu Trp Pro Ile Trp Tyr Arg Cys Arg Arg Pro Arg His Leu Ser  
 135 140 145

gcg gtc gtg tgt gtc ctg ctc tgg gcc ctg tcc cta ctg ctg agc atc 656  
 Ala Val Val Cys Val Leu Leu Trp Ala Leu Ser Leu Leu Ser Ile  
 150 155 160

ttg gaa ggg aag ttc tgt ggc ttc tta ttt agt gat ggt gac tct ggt 704  
 Leu Glu Gly Lys Phe Cys Gly Phe Leu Phe Ser Asp Gly Asp Ser Gly  
 165 170 175

tgg tgt cag aca ttt gat ttc atc act gca gcg tgg ctg att ttt tta 752  
 Trp Cys Gln Thr Phe Asp Phe Ile Thr Ala Ala Trp Leu Ile Phe Leu  
 180 185 190

ttc atg gtt ctc tgt ggg tcc agt ctg gcc ctg ctg gtc agg atc ctc 800

<210> 18  
<211> 330  
<212> PRT  
<213> Homo sapiens

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<400> 18
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Gly Asn Asp Gln Ala Leu Leu Leu Cys Gly Lys Glu Thr Leu Ile
20 25 30
Pro Val Phe Leu Ile Leu Phe Ile Ala Leu Val Gly Leu Val Gly Asn
35 40 45
Gly Phe Val Leu Trp Leu Leu Gly Phe Arg Met Arg Arg Asn Ala Phe
50 55 60
Ser Val Tyr Val Leu Ser Leu Ala Gly Ala Asp Phe Leu Phe Leu Cys
65 70 75 80
Phe Gln Ile Ile Asn Cys Leu Val Tyr Leu Ser Asn Phe Phe Cys Ser
85 90 95
Ile Ser Ile Asn Phe Pro Ser Phe Phe Thr Thr Val Met Thr Cys Ala

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100	105	110
Tyr Leu Ala Gly Leu Ser Met	Leu Ser Thr Val Ser Thr Glu Arg Cys	
115	120	125
Leu Ser Val Leu Trp Pro Ile Trp Tyr Arg Cys Arg Arg Pro Arg His		
130	135	140
Leu Ser Ala Val Val Cys Val Leu Leu Trp Ala Leu Ser Leu Leu		
145	150	155
Ser Ile Leu Glu Gly Lys Phe Cys Gly Phe Leu Phe Ser Asp Gly Asp		
165	170	175
Ser Gly Trp Cys Gln Thr Phe Asp Phe Ile Thr Ala Ala Trp Leu Ile		
180	185	190
Phe Leu Phe Met Val Leu Cys Gly Ser Ser Leu Ala Leu Leu Val Arg		
195	200	205
Ile Leu Cys Gly Ser Arg Gly Leu Pro Leu Thr Arg Leu Tyr Leu Thr		
210	215	220
Ile Leu Leu Thr Val Leu Val Phe Leu Leu Cys Gly Leu Pro Phe Gly		
225	230	235
Ile Gln Trp Phe Leu Ile Leu Trp Ile Trp Lys Asp Ser Asp Val Leu		
245	250	255
Phe Cys His Ile His Pro Val Ser Val Val Leu Ser Ser Leu Asn Ser		
260	265	270
Ser Ala Asn Pro Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg Lys Gln		
275	280	285
Trp Arg Leu Gln Gln Pro Ile Leu Lys Leu Ala Leu Gln Arg Ala Leu		
290	295	300
Gln Asp Ile Ala Glu Val Asp His Ser Glu Gly Cys Phe Arg Gln Gly		
305	310	315
Thr Pro Glu Met Ser Arg Ser Ser Leu Val		
325	330	

<210> 19  
<211> 135  
<212> PRT  
<213> Homo sapiens

<400> 19			
Met Glu Thr Leu Pro Lys Val Leu Glu Val Asp Glu Lys Ser Pro Glu			
1	5	10	15
Ala Lys Asp Leu Leu Pro Ser Gln Thr Ala Ser Ser Leu Cys Ile Ser			
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Ser Arg Ser Glu Ser Val Trp Thr Thr Pro Arg Ser Asn Trp Glu			
35	40	45	
Ile Tyr Arg Lys Pro Ile Val Ile Met Ser Val Gly Gly Ala Ile Leu			
50	55	60	
Leu Phe Gly Val Val Ile Thr Cys Leu Ala Tyr Thr Leu Lys Leu Ser			
65	70	75	80
Asp Lys Ser Leu Ser Ile Leu Lys Met Val Gly Pro Gly Phe Leu Ser			
85	90	95	
Leu Gly Leu Met Met Leu Val Cys Gly Leu Val Trp Val Pro Ile Ile			
100	105	110	
Lys Lys Lys Gln Lys His Arg Gln Lys Ser Asn Phe Leu Arg Ser Leu			
115	120	125	
Lys Ser Phe Phe Leu Thr Arg			
130	135		

<210> 20  
 <211> 970  
 <212> DNA  
 <213> Mus musculus

<220>  
 <221> CDS  
 <222> (83)...(943)

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 ctggattctg acccgaaact ag atg atc atc ata ttc aga ctg gtt ggg atg 112  
 Met Ile Ile Ile Phe Arg Leu Val Gly Met  
 1 5 10

aca gga aat gcc att gtg ttc tgg ctc ctg ggc ttc agc ttg cac agg 160  
 Thr Gly Asn Ala Ile Val Phe Trp Leu Leu Gly Phe Ser Leu His Arg  
 15 20 25

aat gcc ttc tca gtc tac att tta aac ttg gcc ctt gct gac ttc gtc 208  
 Asn Ala Phe Ser Val Tyr Ile Leu Asn Leu Ala Leu Asp Phe Val  
 30 35 40

ttc ctc ctc tgt cac atc ata gat tcc atg ctg ctt ctc act gtt 256  
 Phe Leu Leu Cys His Ile Ile Asp Ser Met Leu Leu Leu Thr Val  
 45 50 55

ttc tac ccc aac aat atc ttt tct ggg tac ttt tac acc atc atg acg 304  
 Phe Tyr Pro Asn Asn Ile Phe Ser Gly Tyr Phe Tyr Thr Ile Met Thr  
 60 65 70

gtt ccc tac atc gca ggc ctg agc atg ctc agt gcc atc agc act gag 352  
 Val Pro Tyr Ile Ala Gly Leu Ser Met Leu Ser Ala Ile Ser Thr Glu  
 75 80 85 90

ctc tgc ctg tct gtc ctg ccc atc tgg tat cgc tgc cac cac cca 400  
 Leu Cys Leu Ser Val Leu Cys Pro Ile Trp Tyr Arg Cys His His Pro  
 95 100 105

gaa cac aca tca act gtc atg tgt gct gcg ata tgg gtc ctg ccc ctg 448  
 Glu His Thr Ser Thr Val Met Cys Ala Ala Ile Trp Val Leu Pro Leu  
 110 115 120

ttg gtc tgc att ctg aat agg tat ttc tgc agt ttc tta gat atc aat 496  
 Leu Val Cys Ile Leu Asn Arg Tyr Phe Cys Ser Phe Leu Asp Ile Asn  
 125 130 135

tat aac aat gac aaa cag tgt ctg gca tca aac ttc ttt act aga gca 544  
 Tyr Asn Asn Asp Lys Gln Cys Leu Ala Ser Asn Phe Phe Thr Arg Ala  
 140 145 150

tac ctg atg ttt ttg ttt gtg gtc ctt tgt ctg tcc agc atg gct ctg 592  
 Tyr Leu Met Phe Leu Phe Val Val Cys Leu Ser Ser Met Ala Leu  
 155 160 165 170

ctg gcc agg ttg ttc tgt ggc act ggg cag atg aag ctt acc aga ttg 640  
 Leu Ala Arg Leu Phe Cys Gly Thr Gly Gln Met Lys Leu Thr Arg Leu

175	180	185	
tac gtg acc atc atg ctg act gtt ttg ggt ttt ctc ctc tgt ggg ttg Tyr Val Thr Ile Met Leu Thr Val Leu Gly Phe Leu Leu Cys Gly Leu 190	195	200	688
ccc ttt gtc atc tac tac ttc ctg tta ttc aat att aag gat ggt ttt Pro Phe Val Ile Tyr Tyr Phe Leu Leu Phe Asn Ile Lys Asp Gly Phe 205	210	215	736
tgt tta ttt gat ttt aga ttt tat atg tca aca cat gtc ctg act gct Cys Leu Phe Asp Phe Arg Phe Tyr Met Ser Thr His Val Leu Thr Ala 220	225	230	784
att aac aac tgt gcc aac ccc ata att tac ttt ttc gag ggc tcc ttc Ile Asn Asn Cys Ala Asn Pro Ile Ile Tyr Phe Phe Glu Gly Ser Phe 235	240	245	832
agg cat cag ttg aag cac cag acc ctc aaa atg gtt ctc cag agt gta Arg His Gln Leu Lys His Gln Thr Leu Lys Met Val Leu Gln Ser Val 255	260	265	880
ctg cag gac act cct gag ata gct gaa aat atg gtg gag atg tca aga Leu Gln Asp Thr Pro Glu Ile Ala Glu Asn Met Val Glu Met Ser Arg 270	275	280	928
aac ata cca aag cca tgataaaaag ccttgccctg gacctca Asn Ile Pro Lys Pro 285			970
<210> 21			
<211> 287			
<212> PRT			
<213> Mus musculus			
<400> 21			
Met Ile Ile Ile Phe Arg Leu Val Gly Met Thr Gly Asn Ala Ile Val 1 5 10 15			
Phe Trp Leu Leu Gly Phe Ser Leu His Arg Asn Ala Phe Ser Val Tyr 20 25 30			
Ile Leu Asn Leu Ala Asp Phe Val Phe Leu Leu Cys His Ile 35 40 45			
Ile Asp Ser Met Leu Leu Leu Leu Thr Val Phe Tyr Pro Asn Asn Ile 50 55 60			
Phe Ser Gly Tyr Phe Tyr Thr Ile Met Thr Val Pro Tyr Ile Ala Gly 65 70 75 80			
Leu Ser Met Leu Ser Ala Ile Ser Thr Glu Leu Cys Leu Ser Val Leu 85 90 95			
Cys Pro Ile Trp Tyr Arg Cys His His Pro Glu His Thr Ser Thr Val 100 105 110			
Met Cys Ala Ala Ile Trp Val Leu Pro Leu Leu Val Cys Ile Leu Asn 115 120 125			
Arg Tyr Phe Cys Ser Phe Leu Asp Ile Asn Tyr Asn Asn Asp Lys Gln 130 135 140			
Cys Leu Ala Ser Asn Phe Phe Thr Arg Ala Tyr Leu Met Phe Leu Phe 145 150 155 160			

Val	Val	Leu	Cys	Leu	Ser	Ser	Met	Ala	Leu	Leu	Ala	Arg	Leu	Phe	Cys
							165		170					175	
Gly	Thr	Gly	Gln	Met	Lys	Leu	Thr	Arg	Leu	Tyr	Val	Thr	Ile	Met	Leu
				180				185					190		
Thr	Val	Leu	Gly	Phe	Leu	Leu	Cys	Gly	Leu	Pro	Phe	Val	Ile	Tyr	Tyr
				195				200				205			
Phe	Leu	Leu	Phe	Asn	Ile	Lys	Asp	Gly	Phe	Cys	Leu	Phe	Asp	Phe	Arg
				210			215			220					
Phe	Tyr	Met	Ser	Thr	His	Val	Leu	Thr	Ala	Ile	Asn	Asn	Cys	Ala	Asn
				225			230		235				240		
Pro	Ile	Ile	Tyr	Phe	Phe	Glu	Gly	Ser	Phe	Arg	His	Gln	Leu	Lys	His
				245				250			255				
Gln	Thr	Leu	Lys	Met	Val	Leu	Gln	Ser	Val	Leu	Gln	Asp	Thr	Pro	Glu
				260				265			270				
Ile	Ala	Glu	Asn	Met	Val	Glu	Met	Ser	Arg	Asn	Ile	Pro	Lys	Pro	
				275			280				285				

<210> 22  
<211> 1024  
<212> DNA  
<213> Mus musculus

<220>  
<221> CDS  
<222> (16)...(918)

<400> 22																
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Met	His	Arg	Ser	Ile	Ser	Ile	Arg	Ile	Leu	Ile	Thr					
1						5					10					
aac	ttg	atg	atc	gtc	atc	ctc	gga	cta	gtc	ggg	ctg	aca	gga	aac	gcc	99
Asn	Leu	Met	Ile	Val	Ile	Leu	Gly	Leu	Val	Gly	Leu	Thr	Gly	Asn	Ala	
15						20					25					
att	gtg	ttc	tgg	ctc	ctg	ctc	ttc	cgc	ttg	cgc	agg	aac	gcc	ttc	tca	147
Ile	Val	Phe	Trp	Leu	Leu	Leu	Phe	Arg	Leu	Arg	Arg	Asn	Ala	Phe	Ser	
30						35				40						
atc	tac	atc	cta	aac	ttg	gcc	ctg	gct	gac	ttc	ctc	ctc	ctc	tgc		195
Ile	Tyr	Ile	Leu	Asn	Leu	Ala	Leu	Ala	Asp	Phe	Leu	Phe	Leu	Cys		
45						50				55			60			
cac	atc	ata	gct	tcc	aca	gag	cat	att	ctc	acg	ttt	tcc	tcc	ccc	aac	243
His	Ile	Ile	Ala	Ser	Thr	Glu	His	Ile	Leu	Thr	Phe	Ser	Ser	Pro	Asn	
65								70				75				
agt	atc	ttt	atc	aat	tgc	ctt	tac	acc	'ttc	agg	gtg	ctt	ctc	tac	atc	291
Ser	Ile	Phe	Ile	Asn	Cys	Leu	Tyr	Thr	Phe	Arg	Val	Leu	Leu	Tyr	Ile	
80								85			90					
gca	ggc	ctg	agc	atg	ctc	agt	gcc	atc	agc	att	gag	cgc	tgc	ctg	tct	339
Ala	Gly	Leu	Ser	Met	Leu	Ser	Ala	Ile	Ser	Ile	Glu	Arg	Cys	Leu	Ser	
95								100			105					
gtc	atg	tgc	ccc	atc	tgg	tat	cgc	tgc	cac	agc	cca	gaa	cac	aca	tca	387

Val Met Cys Pro Ile Trp Tyr Arg Cys His Ser Pro Glu His Thr Ser			
110	115	120	
act gtc atg tgt gct atg atc tgg gtc ctg tct cta ttg ctc tgc att		435	
Thr Val Met Cys Ala Met Ile Trp Val Leu Ser Leu Leu Leu Cys Ile			
125	130	135	140
ctg tat agg tat ttc tgc ggc ttc ttg gat acc aaa tat gaa gat gac		483	
Leu Tyr Arg Tyr Phe Cys Gly Phe Leu Asp Thr Lys Tyr Glu Asp Asp			
145	150	155	
tat ggg tgt cta gca atg aac ttc ctt act acc gca tac ctg atg ttt		531	
Tyr Gly Cys Leu Ala Met Asn Phe Leu Thr Thr Ala Tyr Leu Met Phe			
160	165	170	
ttg ttt gta gtc ctc tgt gtg tcc agc ctg gct ctg ctg gcc agg ttg		579	
Leu Phe Val Val Leu Cys Val Ser Ser Leu Ala Leu Leu Ala Arg Leu			
175	180	185	
ttc tgt ggc gct gga cg <sup>g</sup> atg aag ctt acc aga tta tac gtg acc atc		627	
Phe Cys Gly Ala Gly Arg Met Lys Leu Thr Arg Leu Tyr Val Thr Ile			
190	195	200	
acg ctg acc ctt ttg gtt ttt ctc ctc tgc ggg ttg ccc tgt ggc ttc		675	
Thr Leu Thr Leu Leu Val Phe Leu Leu Cys Gly Leu Pro Cys Gly Phe			
205	210	215	220
tac tgg ttc ctg tta tcc aaa att aag aat gtt ttt act gta ttt gaa		723	
Tyr Trp Phe Leu Leu Ser Lys Ile Lys Asn Val Phe Thr Val Phe Glu			
225	230	235	
ttt agt ctt tat ctg gca tca gtt gtc ctg act gct att aac agc tgt		771	
Phe Ser Leu Tyr Leu Ala Ser Val Val Leu Thr Ala Ile Asn Ser Cys			
240	245	250	
gcc aac ccc atc att tac ttc ttt gtg ggc tca ttc agg cat cgg ttg		819	
Ala Asn Pro Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg His Arg Leu			
255	260	265	
aag cac cag acc ctc aaa atg gtt ctc cag agt gca ctg cag gac act		867	
Lys His Gln Thr Leu Lys Met Val Leu Gln Ser Ala Leu Gln Asp Thr			
270	275	280	
cct gag aca cct gaa aac atg gtg gag atg tca aga aac aaa gca gag		915	
Pro Glu Thr Pro Glu Asn Met Val Glu Met Ser Arg Asn Lys Ala Glu			
285	290	295	300
ctg tgatgaagag cctctgccccg gacctcagag gtggctttgg agtgagcact		968	
Leu			
gccctgctgc acttggccac tgcactct cctctcagct tactcacttg gcatgc		1024	

<210> 23  
<211> 301  
<212> PRT  
<213> Mus musculus

<400> 23

Met His Arg Ser Ile Ser Ile Arg Ile Leu Ile Thr Asn Leu Met Ile  
1 5 10 15  
Val Ile Leu Gly Leu Val Gly Leu Thr Gly Asn Ala Ile Val Phe Trp  
20 25 30  
Leu Leu Leu Phe Arg Leu Arg Arg Asn Ala Phe Ser Ile Tyr Ile Leu  
35 40 45  
Asn Leu Ala Leu Ala Asp Phe Leu Phe Leu Leu Cys His Ile Ile Ala  
50 55 60  
Ser Thr Glu His Ile Leu Thr Phe Ser Ser Pro Asn Ser Ile Phe Ile  
65 70 75 80  
Asn Cys Leu Tyr Thr Phe Arg Val Leu Leu Tyr Ile Ala Gly Leu Ser  
85 90 95  
Met Leu Ser Ala Ile Ser Ile Glu Arg Cys Leu Ser Val Met Cys Pro  
100 105 110  
Ile Trp Tyr Arg Cys His Ser Pro Glu His Thr Ser Thr Val Met Cys  
115 120 125  
Ala Met Ile Trp Val Leu Ser Leu Leu Leu Cys Ile Leu Tyr Arg Tyr  
130 135 140  
Phe Cys Gly Phe Leu Asp Thr Lys Tyr Glu Asp Asp Tyr Gly Cys Leu  
145 150 155 160  
Ala Met Asn Phe Leu Thr Thr Ala Tyr Leu Met Phe Leu Phe Val Val  
165 170 175  
Leu Cys Val Ser Ser Leu Ala Leu Leu Ala Arg Leu Phe Cys Gly Ala  
180 185 190  
Gly Arg Met Lys Leu Thr Arg Leu Tyr Val Thr Ile Thr Leu Thr Leu  
195 200 205  
Leu Val Phe Leu Leu Cys Gly Leu Pro Cys Gly Phe Tyr Trp Phe Leu  
210 215 220  
Leu Ser Lys Ile Lys Asn Val Phe Thr Val Phe Glu Phe Ser Leu Tyr  
225 230 235 240  
Leu Ala Ser Val Val Leu Thr Ala Ile Asn Ser Cys Ala Asn Pro Ile  
245 250 255  
Ile Tyr Phe Phe Val Gly Ser Phe Arg His Arg Leu Lys His Gln Thr  
260 265 270  
Leu Lys Met Val Leu Gln Ser Ala Leu Gln Asp Thr Pro Glu Thr Pro  
275 280 285  
Glu Asn Met Val Glu Met Ser Arg Asn Lys Ala Glu Leu  
290 295 300

<210> 24

<211> 1045

<212> DNA

<213> Mus musculus

<220>

<221> CDS

<222> (106)...(1020)

<400> 24

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ctaaacacct cagcctcagc aatgtcaccc acgacaacaa gtcca atg gac gaa acc 117  
Met Asp Glu Thr

agc cct aga agt att gac atc gag tca ctg atc cca aac ttg atg atc Ser Pro Arg Ser Ile Asp Ile Glu Ser Leu Ile Pro Asn Leu Met Ile	5	10	15	20	165
atc atc ttt gga ctg gtt ggg ctg aca gga aat gcc att gtg ctc tgg Ile Ile Phe Gly Leu Val Gly Leu Thr Gly Asn Ala Ile Val Leu Trp	25	30	35		213
ctc ctg ggc ttc tgc ttg cac agg aat gcc ttc tta gtc tac atc cta Leu Leu Gly Phe Cys Leu His Arg Asn Ala Phe Leu Val Tyr Ile Leu	40	45	50		261
aac ttg gcc ctg gct gac ttc ctc ttc ctt ctc tgt cac ttc ata aat Asn Leu Ala Leu Ala Asp Phe Leu Phe Leu Leu Cys His Phe Ile Asn	55	60	65		309
tca gca atg ttt ctt ctc aag gtt cct ata ccc aac ggt atc ttt gtc Ser Ala Met Phe Leu Leu Lys Val Pro Ile Pro Asn Gly Ile Phe Val	70	75	80		357
tat tgc ttt tac acc atc aaa atg gtt ctc tac atc aca ggc ctg agc Tyr Cys Phe Tyr Thr Ile Lys Met Val Leu Tyr Ile Thr Gly Leu Ser	85	90	95	100	405
atg ctc agt gcc atc agc act gag cgcc tgc ctt tct gtc ctg tgc ccc Met Leu Ser Ala Ile Ser Thr Glu Arg Cys Leu Ser Val Leu Cys Pro	105	110	115		453
atc tgg tat cac tgc cgcc cca gaa cac aca tca act gtc atg tgt Ile Trp Tyr His Cys Arg Arg Pro Glu His Thr Ser Thr Val Met Cys	120	125	130		501
gct gtg att tgg atc ttt tcc gtg ttg atc tgc att ctg aaa gaa tat Ala Val Ile Trp Ile Phe Ser Val Leu Ile Cys Ile Leu Lys Glu Tyr	135	140	145		549
ttc tgt gat ttc ttt ggt acc aaa ttg gga aat tac tat gtg tgt cag Phe Cys Asp Phe Phe Gly Thr Lys Leu Gly Asn Tyr Tyr Val Cys Gln	150	155	160		597
gca tcc aac ttc ttt atg gga gca tac cta atg ttt ttg ttt gta gtc Ala Ser Asn Phe Phe Met Gly Ala Tyr Leu Met Phe Leu Phe Val Val	165	170	175	180	645
ctc tgt ctg tcc acc ctg gct ctg gcc agg ttg ttc tgt ggt gct Leu Cys Leu Ser Thr Leu Ala Leu Ala Arg Leu Phe Cys Gly Ala	185	190	195		693
gag aag atg aaa ttt acc aga tta ttc gtg acc atc atg ctg acc att Glu Lys Met Lys Phe Thr Arg Leu Phe Val Thr Ile Met Leu Thr Ile	200	205	210		741
ttg gtt ttt ctc ctc tgt ggg ttg cca tgg ggc ttc ttc tgg ttc ctg Leu Val Phe Leu Leu Cys Gly Leu Pro Trp Gly Phe Phe Trp Phe Leu	215	220	225		789
tta atc tgg att aag ggt ggt ttt agt gta cta gat tat aga ctt tat					837

Leu Ile Trp Ile Lys Gly Gly Phe Ser Val Leu Asp Tyr Arg Leu Tyr			
230	235	240	
ttg gca tca att gtc cta act gtt gtt aac agc tgt gcc aac ccc atc			885
Leu Ala Ser Ile Val Leu Thr Val Val Asn Ser Cys Ala Asn Pro Ile			
245	250	255	260
att tac ttc ttc gtg gga tca ttc agg cat cggttg aag cac cag acc			933
Ile Tyr Phe Phe Val Gly Ser Phe Arg His Arg Leu Lys His Gln Thr			
265	270	275	
ctc aaa atg gtt ctc cag agt gca ctg cag gac act cct gag aca cat			981
Leu Lys Met Val Leu Gln Ser Ala Leu Gln Asp Thr Pro Glu Thr His			
280	285	290	
gaa aac atg gtg gag atg tca aga atc aaa gca gag cag tgatgaagag			1030
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Ile Val Leu Trp Leu Leu Gly Phe Cys Leu His Arg Asn Ala Phe Leu			
35 40 45			
Val Tyr Ile Leu Asn Leu Ala Leu Ala Asp Phe Leu Phe Leu Leu Cys			
50 55 60			
His Phe Ile Asn Ser Ala Met Phe Leu Leu Lys Val Pro Ile Pro Asn			
65 70 75 80			
Gly Ile Phe Val Tyr Cys Phe Tyr Thr Ile Lys Met Val Leu Tyr Ile			
85 90 95			
Thr Gly Leu Ser Met Leu Ser Ala Ile Ser Thr Glu Arg Cys Leu Ser			
100 105 110			
Val Leu Cys Pro Ile Trp Tyr His Cys Arg Arg Pro Glu His Thr Ser			
115 120 125			
Thr Val Met Cys Ala Val Ile Trp Ile Phe Ser Val Leu Ile Cys Ile			
130 135 140			
Leu Lys Glu Tyr Phe Cys Asp Phe Phe Gly Thr Lys Leu Gly Asn Tyr			
145 150 155 160			
Tyr Val Cys Gln Ala Ser Asn Phe Phe Met Gly Ala Tyr Leu Met Phe			
165 170 175			
Leu Phe Val Val Leu Cys Leu Ser Thr Leu Ala Leu Leu Ala Arg Leu			
180 185 190			
Phe Cys Gly Ala Glu Lys Met Lys Phe Thr Arg Leu Phe Val Thr Ile			
195 200 205			
Met Leu Thr Ile Leu Val Phe Leu Leu Cys Gly Leu Pro Trp Gly Phe			
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225 230 235 240			

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atc ctt gga agt att gac atc gag acc ctg atc cga cat ttg atg atc 104  
 Ile Leu Gly Ser Ile Asp Ile Glu Thr Leu Ile Arg His Leu Met Ile  
       5                 10                 15                 20

atc atc ttc gga ctg gtc ggg ctg aca gga aat gcc att gtg ttc tgg 152  
Ile Ile Phe Gly Leu Val Gly Leu Thr Gly Asn Ala Ile Val Phe Trp  
25 30 35

ctc ctg ggc ttc cac ttg cac agg aat gcc ttc tta gtc tac atc ata 200  
 Leu Leu Gly Phe His Leu His Arg Asn Ala Phe Leu Val Tyr Ile Ile  
40                  45                  50

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aac ttg gcc ctg gct gac ttc ttc tat ctg ctc tgt cac atc ata aat 248
Asn Leu Ala Leu Ala Asp Phe Phe Tyr Leu Leu Cys His Ile Ile Asn
      55           60           65

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tcc ata atg ttt ctt ctc aag gtt ccc tca ccc aac att atc ttg gac	296
Ser Ile Met Phe Leu Leu Lys Val Pro Ser Pro Asn Ile Ile Leu Asp	
70 75 80	

cat tgc ttt tac acc atc atg ata gtt ctc tac atc aca ggc ctg agc	344
His Cys Phe Tyr Thr Ile Met Ile Val Leu Tyr Ile Thr Gly Leu Ser	
85 90 95 100	

atg ctc agc gcc atc agc act gag cgc tgc ctg tct gtc ctg tgc ccc 392  
 Met Leu Ser Ala Ile Ser Thr Glu Arg Cys Leu Ser Val Leu Cys Pro  
                   105                110                115

atc tgg tat cgc tgc cac cgt cca gaa cac aca tca act gtc atg tgt 440  
Ile Trp Tyr Arg Cys His Arg Pro Glu His Thr Ser Thr Val Met Cys  
120 125 130

gct gtg atc tgg gta atg tcc ctg ttg atc tct att ctc aat gga tat Ala Val Ile Trp Val Met Ser Leu Leu Ile Ser Ile Leu Asn Gly Tyr 135	140	145	488	
ttc tgt aat ttc tct agt ccc aaa tat gta aat aac tct gtg tgt cag Phe Cys Asn Phe Ser Ser Pro Lys Tyr Val Asn Asn Ser Val Cys Gln 150	155	160	536	
gca tca cac atc ttt atc aga aca tac cca ata ttt ttg ttt gta ctc Ala Ser His Ile Phe Ile Arg Thr Tyr Pro Ile Phe Leu Phe Val Leu 165	170	175	180	584
ctc tgt ctg tcc acc ctt gct ctg gcc agg ttg ttc tct ggt gct Leu Cys Leu Ser Thr Leu Ala Leu Ala Arg Leu Phe Ser Gly Ala 185	190	195	632	
ggg aag agg aaa ttt acc aga tta ttc gtg acc atc atg ctg gcc att Gly Lys Arg Lys Phe Thr Arg Leu Phe Val Thr Ile Met Leu Ala Ile 200	205	210	680	
ttg gtt ttt ctt ctc tgt ggg tta ccc ctg ggc ttc ttc tgg ttt ctg Leu Val Phe Leu Leu Cys Gly Leu Pro Leu Gly Phe Phe Trp Phe Leu 215	220	225	728	
tca ccc tgg att gag gat cgt ttc att gta cta gat tat aga ctt ttt Ser Pro Trp Ile Glu Asp Arg Phe Ile Val Leu Asp Tyr Arg Leu Phe 230	235	240	776	
ttt gca tca gtt gtc cta act gtt aac agc tgt gcc aac ccc atc Phe Ala Ser Val Val Leu Thr Val Val Asn Ser Cys Ala Asn Pro Ile 245	250	255	260	824
att tac ttc ttt gtg ggc tcc ttc agg cat cgg ttg aag caa cag acc Ile Tyr Phe Phe Val Gly Ser Phe Arg His Arg Leu Lys Gln Gln Thr 265	270	275	872	
ctc aaa atg ttt ctc cag aga gca ctg cag gac acc cct gag aca cct Leu Lys Met Phe Leu Gln Arg Ala Leu Gln Asp Thr Pro Glu Thr Pro 280	285	290	920	
gaa aac atg gtg gag atg tca aga agc aaa gca gag ccg tgatgaagag Glu Asn Met Val Glu Met Ser Arg Ser Lys Ala Glu Pro 295	300	305	969	
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His Leu Met Ile Ile Ile Phe Gly Leu Val Gly Leu Thr Gly Asn Ala 20 25 30				

Ile Val Phe Trp Leu Leu Gly Phe His Leu His Arg Asn Ala Phe Leu  
     35                        40                        45  
 Val Tyr Ile Ile Asn Leu Ala Leu Ala Asp Phe Phe Tyr Leu Leu Cys  
     50                        55                        60  
 His Ile Ile Asn Ser Ile Met Phe Leu Leu Lys Val Pro Ser Pro Asn  
     65                        70                        75                        80  
 Ile Ile Leu Asp His Cys Phe Tyr Thr Ile Met Ile Val Leu Tyr Ile  
     85                        90                        95  
 Thr Gly Leu Ser Met Leu Ser Ala Ile Ser Thr Glu Arg Cys Leu Ser  
     100                       105                       110  
 Val Leu Cys Pro Ile Trp Tyr Arg Cys His Arg Pro Glu His Thr Ser  
     115                       120                       125  
 Thr Val Met Cys Ala Val Ile Trp Val Met Ser Leu Leu Ile Ser Ile  
     130                       135                       140  
 Leu Asn Gly Tyr Phe Cys Asn Phe Ser Ser Pro Lys Tyr Val Asn Asn  
     145                       150                       155                       160  
 Ser Val Cys Gln Ala Ser His Ile Phe Ile Arg Thr Tyr Pro Ile Phe  
     165                       170                       175  
 Leu Phe Val Leu Leu Cys Leu Ser Thr Leu Ala Leu Leu Ala Arg Leu  
     180                       185                       190  
 Phe Ser Gly Ala Gly Lys Arg Lys Phe Thr Arg Leu Phe Val Thr Ile  
     195                       200                       205  
 Met Leu Ala Ile Leu Val Phe Leu Leu Cys Gly Leu Pro Leu Gly Phe  
     210                       215                       220  
 Phe Trp Phe Leu Ser Pro Trp Ile Glu Asp Arg Phe Ile Val Leu Asp  
     225                       230                       235                       240  
 Tyr Arg Leu Phe Phe Ala Ser Val Val Leu Thr Val Val Asn Ser Cys  
     245                       250                       255  
 Ala Asn Pro Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg His Arg Leu  
     260                       265                       270  
 Lys Gln Gln Thr Leu Lys Met Phe Leu Gln Arg Ala Leu Gln Asp Thr  
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 Pro Glu Thr Pro Glu Asn Met Val Glu Met Ser Arg Ser Lys Ala Glu  
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 Pro  
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 Met Glu Thr Leu Pro Lys Val Leu Glu Val Asp Glu Lys Ser Pro Glu  
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gcc aag gac ctg ctg ccc agc cag acc gcc agc tcc ctg tgc atc agc     96  
 Ala Lys Asp Leu Leu Pro Ser Gln Thr Ala Ser Ser Leu Cys Ile Ser  
     20                       25                           30

tcc agg agc gag tct gtc tgg acc acc acc ccc agg agt aac tgg gaa     144

Ser Arg Ser Glu Ser Val Trp Thr Thr Pro Arg Ser Asn Trp Glu			
35	40	45	
atc tac cgc aag ccc atc gtt atc atg tca gtg ggc ggt gcc atc ctg			192
Ile Tyr Arg Lys Pro Ile Val Ile Met Ser Val Gly Gly Ala Ile Leu			
50	55	60	
ctt ttc ggc gtg gtc atc acc tgc ttg gcc tac acc ttg aag ctg agt			240
Leu Phe Gly Val Val Ile Thr Cys Leu Ala Tyr Thr Leu Lys Leu Ser			
65	70	75	80
gac aag agt ctc tcc atc ctc aaa atg gta ggg cct ggc ttc ctg tcc			288
Asp Lys Ser Leu Ser Ile Leu Lys Met Val Gly Pro Gly Phe Leu Ser			
85	90	95	
ctg gga ctc atg atg ctg gtg tgc ggg ctg gtg tgg gtg ccc atc atc			336
Leu Gly Leu Met Met Leu Val Cys Gly Leu Val Trp Val Pro Ile Ile			
100	105	110	
aaa aag aaa cag aag cac aga cag aag tcg aat ttc tta cgc agc ctc			384
Lys Lys Lys Gln Lys His Arg Gln Lys Ser Asn Phe Leu Arg Ser Leu			
115	120	125	
aag tcc ttc ttc ctg act cgc tga			408
Lys Ser Phe Phe Leu Thr Arg			
130	135		
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Ala Lys Asp Leu Leu Pro Ser Gln Thr Ala Ser Ser Leu Cys Ile Ser			
20	25	30	
Ser Arg Ser Glu Ser Val Trp Thr Thr Pro Arg Ser Asn Trp Glu			
35	40	45	
Ile Tyr Arg Lys Pro Ile Val Ile Met Ser Val Gly Gly Ala Ile Leu			
50	55	60	
Leu Phe Gly Val Val Ile Thr Cys Leu Ala Tyr Thr Leu Lys Leu Ser			
65	70	75	80
Asp Lys Ser Leu Ser Ile Leu Lys Met Val Gly Pro Gly Phe Leu Ser			
85	90	95	
Leu Gly Leu Met Met Leu Val Cys Gly Leu Val Trp Val Pro Ile Ile			
100	105	110	
Lys Lys Lys Gln Lys His Arg Gln Lys Ser Asn Phe Leu Arg Ser Leu			
115	120	125	
Lys Ser Phe Phe Leu Thr Arg			
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<220>

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<222> (332)...(1297)

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gcttcagagt cagcaagaac tggattcaa actggatttgg aggaccccca cctttgata 180  
ggtgaacctat tctctgtgag tctctgatct gccctctta aatgaggaag taaatccac 240  
atggcagggt ggtggggaga atcagagatc atacagctgg tgatcacaac tggttctgt 300  
ttccagggtc accagactgg ggtttctgag c atg gat tca acc atc cca gtc 352

Met Asp Ser Thr Ile Pro Val

1 5

ttg ggt aca gaa ctg aca cca atc aac gga cgt gag gag act cct tgc 400  
Leu Gly Thr Glu Leu Thr Pro Ile Asn Gly Arg Glu Glu Thr Pro Cys  
10 15 20

tac aag cag acc ctg acg ttc acg ggg ctg acg tgc atc gtt tcc ctt 448  
Tyr Lys Gln Thr Leu Ser Phe Thr Gly Leu Thr Cys Ile Val Ser Leu  
25 30 35

gtc gcg ctg aca gga aac gcg gtt gtg ctc tgg ctc ctg ggc tgc cgc 496  
Val Ala Leu Thr Gly Asn Ala Val Val Leu Trp Leu Leu Gly Cys Arg  
40 45 50 55

atg cgc agg aac gct gtc tcc atc tac atc ctc aac ctg gtc gcg gcc 544  
Met Arg Arg Asn Ala Val Ser Ile Tyr Ile Leu Asn Leu Val Ala Ala  
60 65 70

gac ttc ctc ttc ctt agc ggc cac att ata tgt tcg ccg tta cgc ctc 592  
Asp Phe Leu Phe Leu Ser Gly His Ile Ile Cys Ser Pro Leu Arg Leu  
75 80 85

atc aat atc cgc cat ccc atc tcc aaa atc ctc agt cct gtg atg acc 640  
Ile Asn Ile Arg His Pro Ile Ser Lys Ile Leu Ser Pro Val Met Thr  
90 95 100

ttt ccc tac ttt ata ggc cta agc atg ctg agc gcc atc agc acc gag 688  
Phe Pro Tyr Phe Ile Gly Leu Ser Met Leu Ser Ala Ile Ser Thr Glu  
105 110 115

cgc tgc ctg tcc atc ctg tgg ccc atc tgg tac cac tgc cgc ccc 736  
Arg Cys Leu Ser Ile Leu Trp Pro Ile Trp Tyr His Cys Arg Arg Pro  
120 125 130 135

aga tac ctg tca tcg gtc atg tgt gtc ctg ctc tgg gcc ctg tcc ctg 784  
Arg Tyr Leu Ser Ser Val Met Cys Val Leu Leu Trp Ala Leu Ser Leu  
140 145 150

ctg cgg agt atc ctg gag tgg atg ttc tgt gac ttc ctg ttt agt ggt 832  
Leu Arg Ser Ile Leu Glu Trp Met Phe Cys Asp Phe Leu Phe Ser Gly  
155 160 165

gct gat tct gtt tgg tgt gaa acg tca gat ttc att aca atc gcg tgg 880

Ala Asp Ser Val Trp Cys Glu Thr Ser Asp Phe Ile Thr Ile Ala Trp			
170	175	180	
ctg gtt ttt tta tgt gtg gtt ctc tgt ggg tcc agc ctg gtc ctg ctg	928		
Leu Val Phe Leu Cys Val Val Leu Cys Gly Ser Ser Leu Val Leu Leu			
185	190	195	
gtc agg att ctc tgt gga tcc cgg aag atg ccg ctg acc agg ctg tac	976		
Val Arg Ile Leu Cys Gly Ser Arg Lys Met Pro Leu Thr Arg Leu Tyr			
200	205	210	215
gtg acc atc ctc ctc aca gtg gtc ttc ctc ctc tgt ggc ctg ccc	1024		
Val Thr Ile Leu Leu Thr Val Leu Val Phe Leu Leu Cys Gly Leu Pro			
220	225	230	
ttt ggc att cag tgg gcc ctg ttt tcc agg atc cac ctg gat tgg aaa	1072		
Phe Gly Ile Gln Trp Ala Leu Phe Ser Arg Ile His Leu Asp Trp Lys			
235	240	245	
gtc tta ttt tgt cat gtg cat cta gtt tcc att ttc ctg tcc gct ctt	1120		
Val Leu Phe Cys His Val His Leu Val Ser Ile Phe Leu Ser Ala Leu			
250	255	260	
aac agc agt gcc aac ccc atc att tac ttc ttc gtg ggc tcc ttt agg	1168		
Asn Ser Ser Ala Asn Pro Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg			
265	270	275	
cag cgt caa aat agg cag aac ctg aag ctg gtt ctc cag agg gct ctg	1216		
Gln Arg Gln Asn Arg Gln Asn Leu Lys Leu Val Leu Gln Arg Ala Leu			
280	285	290	295
cag gac acg cct gag gtg gat gaa ggt gga ggg tgg ctt cct cag gaa	1264		
Gln Asp Thr Pro Glu Val Asp Glu Gly Gly Trp Leu Pro Gln Glu			
300	305	310	
acc ctg gag ctg tcg gga agc aga ttg gag cag tgaggaagaa cctctgccct	1317		
Thr Leu Glu Leu Ser Gly Ser Arg Leu Glu Gln			
315	320		
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Gly Arg Glu Glu Thr Pro Cys Tyr Lys Gln Thr Leu Ser Phe Thr Gly			
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Leu Thr Cys Ile Val Ser Leu Val Ala Leu Thr Gly Asn Ala Val Val			
35 40 45			
Leu Trp Leu Leu Gly Cys Arg Met Arg Arg Asn Ala Val Ser Ile Tyr			
50 55 60			
Ile Leu Asn Leu Val Ala Ala Asp Phe Leu Phe Leu Ser Gly His Ile			

65	70	75	80
Ile Cys Ser Pro Leu Arg Leu Ile Asn Ile Arg His Pro Ile Ser Lys			
85	90	95	
Ile Leu Ser Pro Val Met Thr Phe Pro Tyr Phe Ile Gly Leu Ser Met			
100	105	110	
Leu Ser Ala Ile Ser Thr Glu Arg Cys Leu Ser Ile Leu Trp Pro Ile			
115	120	125	
Trp Tyr His Cys Arg Arg Pro Arg Tyr Leu Ser Ser Val Met Cys Val			
130	135	140	
Leu Leu Trp Ala Leu Ser Leu Leu Arg Ser Ile Leu Glu Trp Met Phe			
145	150	155	160
Cys Asp Phe Leu Phe Ser Gly Ala Asp Ser Val Trp Cys Glu Thr Ser			
165	170	175	
Asp Phe Ile Thr Ile Ala Trp Leu Val Phe Leu Cys Val Val Leu Cys			
180	185	190	
Gly Ser Ser Leu Val Leu Leu Val Arg Ile Leu Cys Gly Ser Arg Lys			
195	200	205	
Met Pro Leu Thr Arg Leu Tyr Val Thr Ile Leu Leu Thr Val Leu Val			
210	215	220	
Phe Leu Leu Cys Gly Leu Pro Phe Gly Ile Gln Trp Ala Leu Phe Ser			
225	230	235	240
Arg Ile His Leu Asp Trp Lys Val Leu Phe Cys His Val His Leu Val			
245	250	255	
Ser Ile Phe Leu Ser Ala Leu Asn Ser Ser Ala Asn Pro Ile Ile Tyr			
260	265	270	
Phe Phe Val Gly Ser Phe Arg Gln Arg Gln Asn Arg Gln Asn Leu Lys			
275	280	285	
Leu Val Leu Gln Arg Ala Leu Gln Asp Thr Pro Glu Val Asp Glu Gly			
290	295	300	
Gly Gly Trp Leu Pro Gln Glu Thr Leu Glu Leu Ser Gly Ser Arg Leu			
305	310	315	320
Glu Gln			

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<222> (433)...(1398)

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tcatcggttc caaaggcctg gcccggatgag tgggggtgtt ttgatcctaa tgttattccc 180  
atgtcagcac agaacttgtg tggcagtaga gagatgtcag gcttcagagt caacaagaac 240  
tggatttcaa actggatttg aggaccccca cctttgtaa gtgacttatt atctgcgagc 300  
ctctgtttct ctcttcttta aatgaggaca gtaaatccca tacggcaggg tggtggggag 360  
aatcagagat gatacagctg gtgatcacat ctggttgtg ttcccagggg caccagacta 420  
gagtttctga gc atg gat cca acc gtc cca gtc ttc ggt aca aaa ctg aca 471  
Met Asp Pro Thr Val Pro Val Phe Gly Thr Lys Leu Thr

1 5 10

cca atc aac gga cgt gag gag act cct tgc tac aat cag acc ctg agc 519

Pro Ile Asn Gly Arg Glu Glu Thr Pro Cys Tyr Asn Gln Thr Leu Ser			
15	20	25	
ttc acg gtg ctg acg tgc atc att tcc ctt gtc gga ctg aca gga aac			567
Phe Thr Val Leu Thr Cys Ile Ile Ser Leu Val Gly Leu Thr Gly Asn			
30	35	40	45
gcu gta gtg ctc tgg ctc ctg ggc tac cgc atg cgc agg aac gct gtc			615
Ala Val Val Leu Trp Leu Leu Gly Tyr Arg Met Arg Arg Asn Ala Val			
50	55	60	
tcc atc tac atc ctc aac ctg gcc gca gca gac ttc ctc ttc ctc agc			663
Ser Ile Tyr Ile Leu Asn Leu Ala Ala Asp Phe Leu Phe Leu Ser			
65	70	75	
ttc cag att ata cgt tcg cca tta cgc ctc atc aat atc agc cat ctc			711
Phe Gln Ile Ile Arg Ser Pro Leu Arg Leu Ile Asn Ile Ser His Leu			
80	85	90	
atc cgc aaa atc ctc gtt tct gtg atg acc ttt ccc tac ttt aca ggc			759
Ile Arg Lys Ile Leu Val Ser Val Met Thr Phe Pro Tyr Phe Thr Gly			
95	100	105	
ctg agt atg ctg agc gcc atc agc acc gag cgc tgc ctg tct gtt ctg			807
Leu Ser Met Leu Ser Ala Ile Ser Thr Glu Arg Cys Leu Ser Val Leu			
110	115	120	125
tgg ccc atc tgg tac cgc tgc cgc ccc aca cac ctg tca gcg gtc			855
Trp Pro Ile Trp Tyr Arg Cys Arg Arg Pro Thr His Leu Ser Ala Val			
130	135	140	
gtg tgt gtc ctg ctc tgg ggc ctg tcc ctg ttt agt atg ctg gag			903
Val Cys Val Leu Leu Trp Gly Leu Ser Leu Leu Phe Ser Met Leu Glu			
145	150	155	
tgg agg ttc tgt gac ttc ctg ttt agt ggt gct gat tct agt tgg tgt			951
Trp Arg Phe Cys Asp Phe Leu Phe Ser Gly Ala Asp Ser Ser Trp Cys			
160	165	170	
gaa acg tca gat ttc atc cca gtc gcg tgg ctg att ttt tta tgt gtg			999
Glu Thr Ser Asp Phe Ile Pro Val Ala Trp Leu Ile Phe Leu Cys Val			
175	180	185	
gtt ctc tgt gtt tcc agc ctg gtc ctg ctg gtc agg atc ctc tgt gga			1047
Val Leu Cys Val Ser Ser Leu Val Leu Leu Val Arg Ile Leu Cys Gly			
190	195	200	205
tcc cgg aag atg ccg ctg acc agg ctg tac gtg acc atc ctg ctc aca			1095
Ser Arg Lys Met Pro Leu Thr Arg Leu Tyr Val Thr Ile Leu Leu Thr			
210	215	220	
gtg ctg gtc ttc ctc tgc ggc ctg ccc ttc ggc att ctg ggg gcc			1143
Val Leu Val Phe Leu Leu Cys Gly Leu Pro Phe Gly Ile Leu Gly Ala			
225	230	235	
cta att tac agg atg cac ctg aat ttg gaa gtc tta tat tgt cat gtt			1191
Leu Ile Tyr Arg Met His Leu Asn Leu Glu Val Leu Tyr Cys His Val			

240

245

250

tat ctg gtt tgc atg tcc ctg tcc tct cta aac agt agt gcc aac ccc 1239  
 Tyr Leu Val Cys Met Ser Leu Ser Ser Leu Asn Ser Ser Ala Asn Pro  
 255 260 265

atc att tac ttc ttc gtg ggc tcc ttt agg cag cgt caa aat agg cag 1287  
 Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg Gln Arg Gln Asn Arg Gln  
 270 275 280 285

aac ctg aag ctg gtt ctc cag agg gct ctg cag gac aag cct gag gtg 1335  
 Asn Leu Lys Leu Val Leu Gln Arg Ala Leu Gln Asp Lys Pro Glu Val  
 290 295 300

gat aaa ggt gaa ggg cag ctt cct gag gaa agc ctg gag ctg tcg gga 1383  
 Asp Lys Gly Glu Gly Gln Leu Pro Glu Glu Ser Leu Glu Leu Ser Gly  
 305 310 315

agc aga ttg ggg cca tgagggagag cctctgccct gtcagtcaga cgggactttg 1438  
 Ser Arg Leu Gly Pro  
 320

agagcaacac tgcctgcca cccttgacaa ttacatgcgt ttttcttagc gtttcgcctc 1498  
 agaaatgtct cagtggtaac tcaaggctt caaataaatg ttatctaacc ctgacagttg 1558  
 cagttttcac ccatggaaag cattagtctg acagtacaat gtttgg 1604

&lt;210&gt; 33

&lt;211&gt; 322

&lt;212&gt; PRT

&lt;213&gt; Homo sapiens

&lt;400&gt; 33

Met	Asp	Pro	Thr	Val	Pro	Val	Phe	Gly	Thr	Lys	Leu	Thr	Pro	Ile	Asn
1									10					15	
Gly	Arg	Glu	Glu	Thr	Pro	Cys	Tyr	Asn	Gln	Thr	Leu	Ser	Phe	Thr	Val
									20					30	
Leu	Thr	Cys	Ile	Ile	Ser	Leu	Val	Gly	Leu	Thr	Gly	Asn	Ala	Val	Val
									35					45	
Leu	Trp	Leu	Leu	Gly	Tyr	Arg	Met	Arg	Arg	Asn	Ala	Val	Ser	Ile	Tyr
									50					60	
Ile	Leu	Asn	Leu	Ala	Ala	Asp	Phe	Leu	Phe	Leu	Ser	Phe	Gln	Ile	
									65					80	
Ile	Arg	Ser	Pro	Leu	Arg	Leu	Ile	Asn	Ile	Ser	His	Leu	Ile	Arg	Lys
									85					95	
Ile	Leu	Val	Ser	Val	Met	Thr	Phe	Pro	Tyr	Phe	Thr	Gly	Leu	Ser	Met
									100					110	
Leu	Ser	Ala	Ile	Ser	Thr	Glu	Arg	Cys	Leu	Ser	Val	Leu	Trp	Pro	Ile
									115					125	
Trp	Tyr	Arg	Cys	Arg	Arg	Pro	Thr	His	Leu	Ser	Ala	Val	Val	Cys	Val
									130					140	
Leu	Leu	Trp	Gly	Leu	Ser	Leu	Leu	Phe	Ser	Met	Leu	Glu	Trp	Arg	Phe
									145					160	
Cys	Asp	Phe	Leu	Phe	Ser	Gly	Ala	Asp	Ser	Ser	Trp	Cys	Glu	Thr	Ser
									165					175	
Asp	Phe	Ile	Pro	Val	Ala	Trp	Leu	Ile	Phe	Leu	Cys	Val	Val	Leu	Cys
									180					190	
Val	Ser	Ser	Leu	Val	Leu	Leu	Val	Arg	Ile	Leu	Cys	Gly	Ser	Arg	Lys

195	200	205
Met Pro Leu Thr Arg Leu Tyr Val	Thr Ile Leu Leu	Thr Val Leu Val
210	215	220
Phe Leu Leu Cys Gly Leu Pro Phe	Gly Ile Leu Gly Ala	Leu Ile Tyr
225	230	235
Arg Met His Leu Asn Leu Glu Val	Leu Tyr Cys His	Val Tyr Leu Val
245	250	255
Cys Met Ser Leu Ser Ser Leu Asn	Ser Ala Asn Pro	Ile Ile Tyr
260	265	270
Phe Phe Val Gly Ser Phe Arg	Gln Arg Gln Asn Arg	Gln Asn Leu Lys
275	280	285
Leu Val Leu Gln Arg Ala Leu Gln Asp Lys	Pro Glu Val Asp Lys	Gly
290	295	300
Glu Gly Gln Leu Pro Glu Glu Ser Leu Glu	Leu Ser Gly Ser Arg	Leu
305	310	315
Gly Pro		320

<210> 34  
<211> 1540  
<212> DNA  
<213> Homo sapiens

<400> 34  
ggcacacct gggaaaggt gcacggggc accaccttg tggccagttg atgccaccca 60  
aggaccagca tagggccaaa gatcacccga ggtcacctgc ctcttcaca aagatgccgt 120  
cttaggcaga gaaggtgtt gggagaaagc tttcatattc aaatgagatt cctgttatcc 180  
accatagat aaccagctta aagcagggtt gggctaaaag ctaatatttt ccccccaacca 240  
gataatctgc tataaacaaa taaattgtat cttccagcgg ggtgcattt tgagatccag 300  
gacacaggtt ttgtgggag ttttgacatg caggaaatgtt acccccacat gcagctgcaa 360  
agtcttggg gctcccaa gaaggcgccc cagacacttgc gcaaggacga ggtgggaggc 420  
agctcacggc tcgggaatct ccagggcatg ggctcgaca ggtggaaacg acctgtggc 480  
ggctctcaag ccccatctc attggtgccc acggtggcgt tctccccacc ttccagctcg 540  
ggctctcgc gaagcgctg ttggagcaca gtccccaggg acctggtggg cagcctgtgg 600  
ctctccggct gcccaccagg aagtagatga cgggttggc gctgtgtt acggacgagg 660  
agaggcgtga caagctgaag cacaggacat gcatctcggg cggcaggctc aaccatgaga 720  
gcacaaacca gtagatgttc agaggcaggg aacagatgag gaacaccagg acagaggcca 780  
ggaccaccac gaacagccgt gtgggtgtt gccgcacttgc ctggagctc ctccgcaccc 840  
agacaaagag ggtcaggctg gacagagtca tcactgggt taagacccc atgatgaggg 900  
cggcctggac catgtccacc ctgaagcacc gattttattt gaatttcaag aacttgtgc 960  
agaaggaaga ggtcaacccg ttcatcggaa gacagagtgtt ccacagcagg ccacacaccc 1020  
aggctgacag gtgcctggc cggtgacact tgaaccagat agggaaagagg acagagagac 1080  
agcgctgggt gctgtatggcc gtcaagcaggc tcaggcccac tggtaggca aagtacatca 1140  
gtctttcat cagctcggtt accttgcgtt tggattgtac cagggctgg gttccaggc 1200  
tgagcgttggaa agccatgtt aagaggaa gggatcggc tgccgcagg ttgaggat 1260  
agatgcagaa ggggttctg tgcattcgaa agcccacgag ccagatcacc atgctgtgc 1320  
ctggccatccc gcacaggcag gtgaacatgg ccaggagct cagcaccagg taggcccgtt 1380  
gcactgtgttccctctggaa tagtttaggg ctgactccac ggtcccactt ctattcaaag 1440  
tctgggttcat ccctacgaga ggaagatgtt ccaatgtt gatctgtgtt gctgggacca 1500  
cgggggaccc ctgggtgccc ctogaatttc cagttcaga 1540

<210> 35  
<211> 409  
<212> PRT  
<213> Homo sapiens

<400> 35

Met Asn Gln Thr Leu Asn Ser Ser Gly Thr Val Glu Ser Ala Leu Asn  
1 5 10 15  
Tyr Ser Arg Gly Ser Thr Val His Thr Ala Tyr Leu Val Leu Ser Ser  
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Leu Ala Met Phe Thr Cys Leu Cys Gly Met Ala Gly Asn Ser Met Val  
35 40 45  
Ile Trp Leu Leu Gly Phe Arg Met His Arg Asn Pro Phe Cys Ile Tyr  
50 55 60  
Ile Leu Asn Leu Ala Ala Asp Leu Leu Phe Leu Phe Ser Met Ala  
65 70 75 80  
Ser Thr Leu Ser Leu Glu Thr Gln Pro Leu Val Asn Thr Thr Asp Lys  
85 90 95  
Val His Glu Leu Met Lys Arg Leu Met Tyr Phe Ala Tyr Thr Val Gly  
100 105 110  
Leu Ser Leu Leu Thr Ala Ile Ser Thr Gln Arg Cys Leu Ser Val Leu  
115 120 125  
Phe Pro Ile Trp Phe Lys Cys His Arg Pro Arg His Leu Ser Ala Trp  
130 135 140  
Val Cys Gly Leu Leu Trp Thr Leu Cys Leu Leu Met Asn Gly Leu Thr  
145 150 155 160  
Ser Ser Phe Cys Ser Lys Phe Leu Lys Phe Asn Glu Asp Arg Cys Phe  
165 170 175  
Arg Val Asp Met Val Gln Ala Ala Leu Ile Met Gly Val Leu Thr Pro  
180 185 190  
Val Met Thr Leu Ser Ser Leu Thr Leu Phe Val Trp Val Arg Arg Ser  
195 200 205  
Ser Gln Gln Trp Arg Arg Gln Pro Thr Arg Leu Phe Val Val Val Leu  
210 215 220  
Ala Ser Val Leu Val Phe Leu Ile Cys Ser Leu Pro Leu Ser Ile Tyr  
225 230 235 240  
Trp Phe Val Leu Tyr Trp Leu Ser Leu Pro Pro Glu Met Gln Val Leu  
245 250 255  
Cys Phe Ser Leu Ser Arg Leu Ser Ser Val Ser Ser Ala Asn  
260 265 270  
Pro Val Ile Tyr Phe Leu Val Gly Ser Arg Arg Ala Thr Gly Cys Pro  
275 280 285  
Pro Gly Pro Trp Gly Leu Cys Ser Asn Arg Arg Phe Ala Arg Ser Pro  
290 295 300  
Ser Trp Lys Val Gly Arg Arg Pro Pro Trp Ala Pro Met Arg Trp Gly  
305 310 315 320  
Leu Glu Ser Arg Pro Gln Val Leu Pro Thr Cys Ala Ser Pro Cys Pro  
325 330 335  
Gly Asp Ser Arg Ala Val Ser Cys Leu Pro Pro Arg Pro Cys Gln Val  
340 345 350  
Ser Gly Pro Pro Ser Trp Gly Ser Pro Lys Asp Phe Ala Ala Ala Cys  
355 360 365  
Gly Gly His Phe Pro Ala Cys Gln Asn Ser Pro Gln His Leu Cys Pro  
370 375 380  
Gly Ser His Asn Ala Thr Pro Leu Glu Asp Ala Ile Tyr Leu Phe Ile  
385 390 395 400  
Ala Asp Tyr Leu Val Gly Gly Lys Tyr  
405

<210> 36

<211> 767

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (2)...(716)

<400> 36

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His Met Val Ala Ile Val Pro Asp Leu Leu Gln Gly Arg Leu Asp Phe  
1 5 10 15

ccg ggc ttc gtg cag acc agc ctg gca acg ctg cgc ttc ttc tgc tac 97  
Pro Gly Phe Val Gln Thr Ser Leu Ala Thr Leu Arg Phe Phe Cys Tyr  
20 25 30

atc gtg ggc ctg agt ctc ctg gcg gcc gtc agc gtg gag cag tgc ctg 145  
Ile Val Gly Leu Ser Leu Ala Ala Val Ser Val Glu Gln Cys Leu  
35 40 45

gcc gcc ctc ttc cca gcc tgg tac tcg tgc cgc cca cgc cac ctg 193  
Ala Ala Leu Phe Pro Ala Trp Tyr Ser Cys Arg Arg Pro Arg His Leu  
50 55 60

acc acc tgt gtg tgc gcc ctc acc tgg gcc ctc tgc ctg ctg cac 241  
Thr Thr Cys Val Cys Ala Leu Thr Trp Ala Leu Cys Leu Leu His  
65 70 75 80

ctg ctg ctc agc agc gcc tgc acc cag ttc ttc ggg gag ccc agc cgc 289  
Leu Leu Leu Ser Ser Ala Cys Thr Gln Phe Phe Gly Glu Pro Ser Arg  
85 90 95

cac ttg tgc cgg acg ctg tgg ctg gtg gca gcg gtg ctg ctg gct ctg 337  
His Leu Cys Arg Thr Leu Trp Leu Val Ala Ala Val Leu Leu Ala Leu  
100 105 110

ctg tgt tgc acc atg tgt ggg gcc agc ctt atg ctg ctg ctg cgg gtg 385  
Leu Cys Cys Thr Met Cys Gly Ala Ser Leu Met Leu Leu Arg Val  
115 120 125

gag cga ggc ccc cag cgg ccc cca ccc cgg ggc ttc cct ggg ctc atc 433  
Glu Arg Gly Pro Gln Arg Pro Pro Pro Arg Gly Phe Pro Gly Leu Ile  
130 135 140

ctc ctc acc gtc ctc ttc ctc ttc tgc ggc ctg ccc ttc ggc atc 481  
Leu Leu Thr Val Leu Leu Phe Leu Phe Cys Gly Leu Pro Phe Gly Ile  
145 150 155 160

tac tgg ctg tcc cgg aac ctg ctc tgg tac atc ccc cac tac ttc tac 529  
Tyr Trp Leu Ser Arg Asn Leu Leu Trp Tyr Ile Pro His Tyr Phe Tyr  
165 170 175

cac ttc agc ttc ctc atg gcc gtg cac tgc gcg gcc aag ccc gtc 577  
His Phe Ser Phe Leu Met Ala Ala Val His Cys Ala Ala Lys Pro Val  
180 185 190

gtc tac ttc tgc ctg ggc agt gcc cag ggc cgc agg ctg ccc ctc cgg 625

Val Tyr Phe Cys Leu Gly Ser Ala Gln Gly Arg Arg Leu Pro Leu Arg  
 195 200 205  
 ctg gtc ctc cag cga gcg ctg gga gac gag gct gag ctg ggg gcc gtc 673  
 Leu Val Leu Gln Arg Ala Leu Gly Asp Glu Ala Glu Leu Gly Ala Val  
 210 215 220  
 agg gag acc tcc cgc cgg ggc ctg gtg gac ata gca gcc tga g  
 Arg Glu Thr Ser Arg Arg Gly Leu Val Asp Ile Ala Ala \* 716  
 225 230 235  
 ccctggggcc cccgaccca gctgcagccc ccgtgaggca agagggtgac t 767  
 <210> 37  
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 <212> PRT  
 <213> Homo sapiens  
 <400> 37  
 His Met Val Ala Ile Val Pro Asp Leu Leu Gln Gly Arg Leu Asp Phe  
 1 5 10 15  
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 20 25 30  
 Ile Val Gly Leu Ser Leu Leu Ala Ala Val Ser Val Glu Gln Cys Leu  
 35 40 45  
 Ala Ala Leu Phe Pro Ala Trp Tyr Ser Cys Arg Arg Pro Arg His Leu  
 50 55 60  
 Thr Thr Cys Val Cys Ala Leu Thr Trp Ala Leu Cys Leu Leu Leu His  
 65 70 75 80  
 Leu Leu Leu Ser Ser Ala Cys Thr Gln Phe Phe Gly Glu Pro Ser Arg  
 85 90 95  
 His Leu Cys Arg Thr Leu Trp Leu Val Ala Ala Val Leu Leu Ala Leu  
 100 105 110  
 Leu Cys Cys Thr Met Cys Gly Ala Ser Leu Met Leu Leu Leu Arg Val  
 115 120 125  
 Glu Arg Gly Pro Gln Arg Pro Pro Pro Arg Gly Phe Pro Gly Leu Ile  
 130 135 140  
 Leu Leu Thr Val Leu Leu Phe Leu Phe Cys Gly Leu Pro Phe Gly Ile  
 145 150 155 160  
 Tyr Trp Leu Ser Arg Asn Leu Leu Trp Tyr Ile Pro His Tyr Phe Tyr  
 165 170 175  
 His Phe Ser Phe Leu Met Ala Ala Val His Cys Ala Ala Lys Pro Val  
 180 185 190  
 Val Tyr Phe Cys Leu Gly Ser Ala Gln Gly Arg Arg Leu Pro Leu Arg  
 195 200 205  
 Leu Val Leu Gln Arg Ala Leu Gly Asp Glu Ala Glu Leu Gly Ala Val  
 210 215 220  
 Arg Glu Thr Ser Arg Arg Gly Leu Val Asp Ile Ala Ala  
 225 230 235  
 <210> 38  
 <211> 1361  
 <212> DNA  
 <213> Mus musculus

<221> CDS

<222> (48)...(1064)

<400> 38

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Met Asp Leu  
1

gtc atc caa gac tgg acc att aat att aca gca ctg aaa gaa agc aat 104  
Val Ile Gln Asp Trp Thr Ile Asn Ile Thr Ala Leu Lys Glu Ser Asn  
5 10 15

gac aat gga ata tca ttt tgt gaa gtt gtg tct cgt acc atg act ttt 152  
Asp Asn Gly Ile Ser Phe Cys Glu Val Val Ser Arg Thr Met Thr Phe  
20 25 30 35

ctt tcc ctc atc att gcc tta gtt ggg ctg gtt gga aat gcc aca gtg 200  
Leu Ser Leu Ile Ile Ala Leu Val Gly Leu Val Gly Asn Ala Thr Val  
40 45 50

tta tgg ttt ctg ggc ttc cag atg agc agg aat gcc ttc tct gtc tac 248  
Leu Trp Phe Leu Gly Phe Gln Met Ser Arg Asn Ala Phe Ser Val Tyr  
55 60 65

atc ctc aac ctt gct ggt gct gac ttt gtc ttc atg tgc ttt caa att 296  
Ile Leu Asn Leu Ala Gly Ala Asp Phe Val Phe Met Cys Phe Gln Ile  
70 75 80

gta cat tgt ttt tat att atc tta gac atc tac ttc atc ccc act aat 344  
Val His Cys Phe Tyr Ile Ile Leu Asp Ile Tyr Phe Ile Pro Thr Asn  
85 90 95

ttt ttt tca tct tac act atg gtg tta aac att gct tac ctt agt ggt 392  
Phe Phe Ser Ser Tyr Thr Met Val Leu Asn Ile Ala Tyr Leu Ser Gly  
100 105 110 115

ctg agc atc ctc act gtc att agc act gaa cgc ttc cta tct gtc atg 440  
Leu Ser Ile Leu Thr Val Ile Ser Thr Glu Arg Phe Leu Ser Val Met  
120 125 130

tgg ccc atc tgg tac cgc tgc caa cgc cca agg cac aca tca gct gtc 488  
Trp Pro Ile Trp Tyr Arg Cys Gln Arg Pro Arg His Thr Ser Ala Val  
135 140 145

ata tgt act gtg ctt tgg gtc ttg tcc ctg gtg ttg agc ctc ctg gaa 536  
Ile Cys Thr Val Leu Trp Val Leu Ser Leu Val Leu Ser Leu Leu Glu  
150 155 160

gga aag gaa tgt ggc ttc cta tat tac act agt ggc cct ggt ttg tgt 584  
Gly Lys Glu Cys Gly Phe Leu Tyr Tyr Ser Gly Pro Gly Leu Cys  
165 170 175

aag aca ttt gat tta atc act act gca tgg tta att gtt tta ttt gtg 632  
Lys Thr Phe Asp Leu Ile Thr Thr Ala Trp Leu Ile Val Leu Phe Val  
180 185 190 195

gtt ctc ttg gga tcc agt ctg gcc ttg gtg ctt acc atc ttc tgt ggc 680



Phe Gln Ile Val His Cys Phe Tyr Ile Ile Leu Asp Ile Tyr Phe Ile  
                   85                  90                  95  
 Pro Thr Asn Phe Phe Ser Ser Tyr Thr Met Val Leu Asn Ile Ala Tyr  
                   100              105              110  
 Leu Ser Gly Leu Ser Ile Leu Thr Val Ile Ser Thr Glu Arg Phe Leu  
                   115              120              125  
 Ser Val Met Trp Pro Ile Trp Tyr Arg Cys Gln Arg Pro Arg His Thr  
                   130              135              140  
 Ser Ala Val Ile Cys Thr Val Leu Trp Val Leu Ser Leu Val Leu Ser  
                   145              150              155              160  
 Leu Leu Glu Gly Lys Glu Cys Gly Phe Leu Tyr Tyr Thr Ser Gly Pro  
                   165              170              175  
 Gly Leu Cys Lys Thr Phe Asp Leu Ile Thr Thr Ala Trp Leu Ile Val  
                   180              185              190  
 Leu Phe Val Val Leu Leu Gly Ser Ser Leu Ala Leu Val Leu Thr Ile  
                   195              200              205  
 Phe Cys Gly Leu His Lys Val Pro Val Thr Arg Leu Tyr Val Thr Ile  
                   210              215              220  
 Val Phe Thr Val Leu Val Phe Leu Ile Phe Gly Leu Pro Tyr Gly Ile  
                   225              230              235              240  
 Tyr Trp Phe Leu Leu Glu Trp Ile Arg Glu Phe His Asp Asn Lys Pro  
                   245              250              255  
 Cys Gly Phe Arg Asn Val Thr Ile Phe Leu Ser Cys Ile Asn Ser Cys  
                   260              265              270  
 Ala Asn Pro Ile Ile Tyr Phe Leu Val Gly Ser Ile Arg His His Arg  
                   275              280              285  
 Phe Gln Arg Lys Thr Leu Lys Leu Leu Gln Arg Ala Met Gln Asp  
                   290              295              300  
 Ser Pro Glu Glu Glu Cys Gly Glu Met Gly Ser Ser Arg Arg Pro  
                   305              310              315              320  
 Arg Glu Ile Lys Thr Val Trp Lys Gly Leu Arg Ala Ala Leu Ile Arg  
                   325              330              335  
 His Lys

<210> 40  
 <211> 1278  
 <212> DNA  
 <213> Mus musculus

<400> 40  
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 gaagctacta catcgatact tcagtttgc tcaccaggaa ccaagccatg attttgcattt 120  
 ccatcatcat ttccctgggtt gggatgggac taaatccat agtgctgtgg ttccctgggca 180  
 tccgtatgca cacgaatgcc ttcaactgtct acattctcaa cctggctatg gctgactttc 240  
 tttacctgtg ctctcagttt gtaatttgc ttcttattgc cttttatatac ttctactcaa 300  
 ttgacatcaa catccctttg gttctttatg ttgtgccaat atttgcttat ctttcaggc 360  
 tgagcattct cagcaccatt agcattgagc gctgctgtc tgaatatatgg cccatttggt 420  
 atcgctgtaa acgtccaaaga cacacatcag ctatcacatg ttttgcgtt tgggttatgt 480  
 ctttattgtt gggctccctg gaaggaaagg catgtggctt actgtttaat agctttgact 540  
 ctttattgggt tgaaacattt gatgttatca ctaatatacg gtcagttgtt tttttgggt 600  
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 ctatgaccag gctgtatgtg actattacac tcacagttt ggtcttcctg atctttggc 720  
 ttccctttgg gatctattgg atactctatc agtggattttt caatttttat tatgttggaa 780  
 ttgttaattt ttatcttgag atactattcc tattcctgtgt taacagctgt atgaacccca 840  
 tcatttattt ccttgcgttgc tccatttaggc accgaagggtt caggcgaaag actctcaagc 900

tacttctgca gagagccatg caagacaccc ctgaggagga acaaagtgg aataagagt 960  
cttcagaaca ccctgaagaa ctgaaaactg ttcagagctg cagctgacaa ctgcttgate 1020  
agacaaaaat ggtttgatg gaaatacttt ttcttatccg tgtggaccat tttacaacc 1080  
tttattcagt ttgttatctc atcttcaatt gtttaat tag gacaataatt tttgtaaaag 1140  
ttgagagaaa tgggtcttgt catactaata ctgaatgtag catttctgaa gctgtgtac 1200  
tttagggattt accatctcct tttcatgggaa ctccttgaa gtattctgtg gtagagaact 1260  
tctccattt tgacaaa 1278

<210> 41  
<211> 338  
<212> PRT  
<213> Mus musculus

<400> 41  
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Cys Val Thr Arg Asn Gln Ala Met Ile Leu Leu Ser Ile Ile Ile Ser  
35 40 45  
Leu Val Gly Met Gly Leu Asn Ala Ile Val Leu Trp Phe Leu Gly Ile  
50 55 60  
Arg Met His Thr Asn Ala Phe Thr Val Tyr Ile Leu Asn Leu Ala Met  
65 70 75 80  
Ala Asp Phe Leu Tyr Leu Cys Ser Gln Phe Val Ile Cys Leu Leu Ile  
85 90 95  
Ala Phe Tyr Ile Phe Tyr Ser Ile Asp Ile Asn Ile Pro Leu Val Leu  
100 105 110  
Tyr Val Val Pro Ile Phe Ala Tyr Leu Ser Gly Leu Ser Ile Leu Ser  
115 120 125  
Thr Ile Ser Ile Glu Arg Cys Leu Ser Val Ile Trp Pro Ile Trp Tyr  
130 135 140  
Arg Cys Lys Arg Pro Arg His Thr Ser Ala Ile Thr Cys Phe Val Leu  
145 150 155 160  
Trp Val Met Ser Leu Leu Gly Leu Leu Glu Gly Lys Ala Cys Gly  
165 170 175  
Leu Leu Phe Asn Ser Phe Asp Ser Tyr Trp Cys Glu Thr Phe Asp Val  
180 185 190  
Ile Thr Asn Ile Trp Ser Val Val Phe Phe Gly Val Leu Cys Gly Ser  
195 200 205  
Ser Leu Thr Leu Leu Val Arg Ile Phe Cys Gly Ser Gln Arg Ile Pro  
210 215 220  
Met Thr Arg Leu Tyr Val Thr Ile Thr Leu Thr Val Leu Val Phe Leu  
225 230 235 240  
Ile Phe Gly Leu Pro Phe Gly Ile Tyr Trp Ile Leu Tyr Gln Trp Ile  
245 250 255  
Ser Asn Phe Tyr Tyr Val Glu Ile Cys Asn Phe Tyr Leu Glu Ile Leu  
260 265 270  
Phe Leu Ser Cys Val Asn Ser Cys Met Asn Pro Ile Ile Tyr Phe Leu  
275 280 285  
Val Gly Ser Ile Arg His Arg Arg Phe Arg Arg Lys Thr Leu Lys Leu  
290 295 300  
Leu Leu Gln Arg Ala Met Gln Asp Thr Pro Glu Glu Glu Gln Ser Gly  
305 310 315 320  
Asn Lys Ser Ser Ser Glu His Pro Glu Glu Leu Glu Thr Val Gln Ser  
325 330 335  
Cys Ser

<210> 42  
<211> 1009  
<212> DNA  
<213> Mus musculus

<400> 42  
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ttccccgtt gggatggtag tgaatatcat agtgctgtgg ttctgggtt tccagatatg 180  
caggaatgcc ttctctgcct acatcctcaa cctggctgtg gctgatttc tcttcctgtg 240  
ttctcattct atattttctt ttcttattgt ctgcaaactg cactatttt tattctacat 300  
tagacagctt ttggataactg tgacaatgtt tgcttatgtt tttggcctga gcattaccac 360  
catcattagc attgagtgtc gcctgtctat catgtggccc atctggatc actgccaacg 420  
tccaagacac acatcagctg tcatttgtt cttgcttgg gctctatctc tgctgtttcc 480  
tgctctgcag atggaaaaat gtagcgtcct gtttaatact ttgaatatt ctgggtgtgg 540  
gataatcaat ataatctctg gtgcattgtt agttgttta ttgtgggtc tctgtgggtt 600  
cagcctcata ctgctcctca ggatctcctg tggatcacag cagattcctg tgaccaggct 660  
gaatgttaact attgcactca gagtgctact ctcctgtatc ttgggttcc cctttggat 720  
cttctggata gttgacaaat ggaatgaaga aaatttttc gttagagctt gtgggtttc 780  
acatcatata ctatacgtat actgtattaa catctgtgtc aatgctacca tataacttcct 840  
tgttggctcc attaggcatg gcaagttca gaagatgact ctgaagctga ttctgcagag 900  
agctatacag ggcacccccc aggaagaagg tggagagagg ggtccttaag gaaatactga 960  
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<210> 43  
<211> 312  
<212> PRT  
<213> Mus musculus

<400> 43  
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Leu Ser Ile Thr Ile Ser Pro Val Gly Met Val Leu Asn Ile Ile Val  
35 40 45  
Leu Trp Phe Leu Gly Phe Gln Ile Cys Arg Asn Ala Phe Ser Ala Tyr  
50 55 60  
Ile Leu Asn Leu Ala Val Ala Asp Phe Leu Phe Leu Cys Ser His Ser  
65 70 75 80  
Ile Phe Ser Phe Leu Ile Val Cys Lys Leu His Tyr Phe Leu Phe Tyr  
85 90 95  
Ile Arg Gln Leu Leu Asp Thr Val Thr Met Phe Ala Tyr Val Phe Gly  
100 105 110  
Leu Ser Ile Thr Thr Ile Ile Ser Ile Glu Cys Cys Leu Ser Ile Met  
115 120 125  
Trp Pro Ile Trp Tyr His Cys Gln Arg Pro Arg His Thr Ser Ala Val  
130 135 140  
Ile Cys Val Leu Leu Trp Ala Leu Ser Leu Leu Phe Pro Ala Leu Gln  
145 150 155 160  
Met Glu Lys Cys Ser Val Leu Phe Asn Thr Phe Glu Tyr Ser Trp Cys  
165 170 175  
Gly Ile Ile Asn Ile Ile Ser Gly Ala Trp Leu Val Val Leu Phe Val  
180 185 190

Val	Leu	Cys	Gly	Phe	Ser	Leu	Ile	Leu	Leu	Leu	Arg	Ile	Ser	Cys	Gly
							195		200						205
Ser	Gln	Gln	Ile	Pro	Val	Thr	Arg	Leu	Asn	Val	Thr	Ile	Ala	Leu	Arg
							210		215						220
Val	Leu	Leu	Leu	Ile	Phe	Gly	Ile	Pro	Phe	Gly	Ile	Phe	Trp	Ile	
							225		230						240
Val	Asp	Lys	Trp	Asn	Glu	Glu	Asn	Phe	Phe	Val	Arg	Ala	Cys	Gly	Phe
							245			250					255
Ser	His	His	Ile	Leu	Tyr	Val	Tyr	Cys	Ile	Asn	Ile	Cys	Val	Asn	Ala
							260			265					270
Thr	Ile	Tyr	Phe	Leu	Val	Gly	Ser	Ile	Arg	His	Gly	Lys	Phe	Gln	Lys
							275		280						285
Met	Thr	Leu	Lys	Leu	Ile	Leu	Gln	Arg	Ala	Ile	Gln	Gly	Thr	Pro	Glut
							290		295						300
Glu	Glu	Gly	Gly	Glu	Arg	Gly	Pro								
							305		310						

<210> 44  
<211> 1219  
<212> DNA  
<213> *Mus musculus*

<400> 44  
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tggcatatc tcgatttctt tgcaggaatg ccagtggaaa attcctaagc atgggtacaa 120  
ccaccctggc ctggAACATT aacaacacccg ctgaaaatgg aagttacact gaaatgttct 180  
cctgtatcac caagttcaat accctgaatt ttcttactgt catcatagct gtgggtggcc 240  
tggcaggaaa cggcatagtg ctatggcttc tagccttcca cctgcatagg aatgccttct 300  
ctgtctatgt cctcaatctg gctgggtctg atttcttgc ctttttactt caagttgtgc 360  
attccctgga atgtgtcctt cagttagata ataactcctt ttatattctc ctcattgtta 420  
caatgtttgc ttaccttgca ggtttgtgtt tgattgcagc catcagtgtt gaacgctgcc 480  
tatctgttat gtggcctatc tggtatcaact gccaaagacc aagacacaca tcagccatca 540  
tgtgtgtctt ggtctgggtt tcctcttat tggtagcct cgtggtaggg cttaggctgt 600  
gttttctgtt cagttattat gattatttt tctgtattac ttgtttttt atcactgtct 660  
cattttaat agtgttatct gtggttctt ctgtatctag cctggccctg ttggtaaga 720  
ttgtgtgggg gtcacacagg attcctgtga ccaggttctt tggaccatt gctctcacag 780  
tgggtgtctt catatacttt ggcattgcct ttgttatctg ctggttcctc ttatcaagga 840  
ttatggagtt tgatagcatt ttcttttaaca atgtttatga aataatagaa ttccctgtcc 900  
gtgttaacag ctgtgccaat cccatcatt acttccctgt tggctccatt agacaacaca 960  
gttgcgtatg gcagtctctg aagctacttc ttcaagagac catgcaggac actcctgagg 1020  
aagagagtgg agagagggggt cttcgcaaa ggtctggggg actggaaaca gtcttagtaca 1080  
gtatgttgatg gagtccctgg tcaaacatag ttctgtgag agtcaatttt gcctttatct 1140  
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aqqaqaaatg agcttggta 1219

<210> 45  
<211> 321  
<212> PRT  
<213> *Mus musculus*

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<400> 45
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Gly Ser Tyr Thr Glu Met Phe Ser Cys Ile Thr Lys Phe Asn Thr Leu
      20          25          30
Asn Phe Leu Thr Val Ile Ile Ala Val Val Gly Leu Ala Gly Asn Gly

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35	40	45
Ile Val Leu Trp Leu Leu Ala Phe His Leu His Arg Asn Ala Phe Ser		
50	55	60
Val Tyr Val Leu Asn Leu Ala Gly Ala Asp Phe Leu Tyr Leu Phe Thr		
65	70	75
Gln Val Val His Ser Leu Glu Cys Val Leu Gln Leu Asp Asn Asn Ser		
85	90	95
Phe Tyr Ile Leu Leu Ile Val Thr Met Phe Ala Tyr Leu Ala Gly Leu		
100	105	110
Cys Met Ile Ala Ala Ile Ser Ala Glu Arg Cys Leu Ser Val Met Trp		
115	120	125
Pro Ile Trp Tyr His Cys Gln Arg Pro Arg His Thr Ser Ala Ile Met		
130	135	140
Cys Ala Leu Val Trp Val Ser Ser Leu Leu Leu Ser Leu Val Val Gly		
145	150	155
Leu Gly Cys Gly Phe Leu Phe Ser Tyr Tyr Asp Tyr Tyr Phe Cys Ile		
165	170	175
Thr Leu Asn Phe Ile Thr Ala Ala Phe Leu Ile Val Leu Ser Val Val		
180	185	190
Leu Ser Val Ser Ser Leu Ala Leu Leu Val Lys Ile Val Trp Gly Ser		
195	200	205
His Arg Ile Pro Val Thr Arg Phe Phe Val Thr Ile Ala Leu Thr Val		
210	215	220
Val Val Phe Ile Tyr Phe Gly Met Pro Phe Gly Ile Cys Trp Phe Leu		
225	230	235
Leu Ser Arg Ile Met Glu Phe Asp Ser Ile Phe Phe Asn Asn Val Tyr		
245	250	255
Glu Ile Ile Glu Phe Leu Ser Cys Val Asn Ser Cys Ala Asn Pro Ile		
260	265	270
Ile Tyr Phe Leu Val Gly Ser Ile Arg Gln His Arg Leu Arg Trp Gln		
275	280	285
Ser Leu Lys Leu Leu Leu Gln Arg Ala Met Gln Asp Thr Pro Glu Glu		
290	295	300
Glu Ser Gly Glu Arg Gly Pro Ser Gln Arg Ser Gly Glu Leu Glu Thr		
305	310	315
Val		320

<210> 46  
<211> 1281  
<212> DNA  
<213> Mus musculus

<400> 46  
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gaaaccttcct aaacatgggt ctaaccactc cagcctggaa cattaacaac acagtagtga 120  
atggaaagtaa caataactgaa catttctcct gtgtcagcaa gttcaatacc ctgaactttc 180  
ttactgtcat cattgccatg tttggcctgg caggaaatgc catagtccta tggcttctag 240  
ccttccaccc gccttaggaat gccttctctg tctatgtctg caacttggct tgtgctgatt 300  
tcttgcactt ttgcactcag atttttaggtt ccctggaaatg tttcccttcag ttaaatagga 360  
gacacacttt ttttctcacc gtgttatcta tgtttgccta cttgcaggt ttgtgtatga 420  
ttgcagccat cagtgtttag cgctctctat ctgttatgtg gcccatctgg tatcactgcc 480  
aaagaccaag acatacatca tccatcatgt gtgctctgct ctgggcttto tgtctactgt 540  
tgaatttcct attagggaa ggctgtggcc ttctgttcag tgatcctaaa tattatttct 600  
gtattacttg tgccttaatc actactgcac ttataatatt attaactgtg gttccttctg 660  
tgtccagcct ggccctgttg gtcaagatga tctgtggatc acacaggatt cctgtgacca 720

ggttctatgt gaccattgct ctcacattgg tggtcttcat attctgggt ctgcccttg 780  
 ggatttactc atctttcttg ataatgttta aggagttca aagcatttc tcttaccatg 840  
 tccttgaagt gacaatattc ctgtcctgtg ttaacagctg tgccaatccc atcatttact 900  
 ttcttggtagg ctccattagg cagcacaggt tgcaatggca gtctctgaag ctacttcttc 960  
 agagagccat gcaggacact cctgaggaag atagtggaga gagggttccc tcacaaaggt 1020  
 ctgggaaact gaaaaagtgtt tagtgcagta gttgagtgag tcttgatca gacatggta 1080  
 ctctgagagt cagtttgcc tttgttatg taagcaattt tcacaatctt gtacaatttg 1140  
 taaaagaata gtcattttat agaaattggg agaaaggggc ttgttacaca gaaactgagt 1200  
 gcaacaccat aaagctgtct tatgtgggtc tcattacatt ctcttgtat ataagccttg 1260  
 taatcacttg ggaacaaaac t 1281

<210> 47  
 <211> 322  
 <212> PRT  
 <213> Mus musculus

<400> 47  
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 Leu Asn Phe Leu Thr Val Ile Ile Ala Met Phe Gly Leu Ala Gly Asn  
 35 40 45  
 Ala Ile Val Leu Trp Leu Leu Ala Phe His Leu Pro Arg Asn Ala Phe  
 50 55 60  
 Ser Val Tyr Val Cys Asn Leu Ala Cys Ala Asp Phe Leu Gln Leu Cys  
 65 70 75 80  
 Thr Gln Ile Leu Gly Ser Leu Glu Cys Phe Leu Gln Leu Asn Arg Arg  
 85 90 95  
 His Thr Phe Phe Leu Thr Val Val Phe Met Phe Ala Tyr Leu Ala Gly  
 100 105 110  
 Leu Cys Met Ile Ala Ala Ile Ser Val Glu Arg Ser Leu Ser Val Met  
 115 120 125  
 Trp Pro Ile Trp Tyr His Cys Gln Arg Pro Arg His Thr Ser Ser Ile  
 130 135 140  
 Met Cys Ala Leu Leu Trp Ala Phe Cys Leu Leu Asn Phe Leu Leu  
 145 150 155 160  
 Gly Glu Gly Cys Gly Leu Leu Phe Ser Asp Pro Lys Tyr Tyr Phe Cys  
 165 170 175  
 Ile Thr Cys Ala Leu Ile Thr Thr Ala Leu Ile Ile Leu Leu Thr Val  
 180 185 190  
 Val Pro Ser Val Ser Ser Leu Ala Leu Leu Val Lys Met Ile Cys Gly  
 195 200 205  
 Ser His Arg Ile Pro Val Thr Arg Phe Tyr Val Thr Ile Ala Leu Thr  
 210 215 220  
 Leu Val Val Phe Ile Phe Leu Gly Leu Pro Phe Gly Ile Tyr Ser Ser  
 225 230 235 240  
 Phe Leu Ile Met Phe Lys Glu Phe Gln Ser Ile Phe Ser Tyr His Val  
 245 250 255  
 Leu Glu Val Thr Ile Phe Leu Ser Cys Val Asn Ser Cys Ala Asn Pro  
 260 265 270  
 Ile Ile Tyr Phe Leu Val Gly Ser Ile Arg Gln His Arg Leu Gln Trp  
 275 280 285  
 Gln Ser Leu Lys Leu Leu Gln Arg Ala Met Gln Asp Thr Pro Glu  
 290 295 300  
 Glu Asp Ser Gly Glu Arg Val Pro Ser Gln Arg Ser Gly Glu Leu Glu  
 305 310 315 320

Ser Val

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<210> 48  
<211> 1280  
<212> DNA  
<213> Mus musculus
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<400> 48  
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acctggatct actttttagt gacattcctc gcattggcca cgtgtgtggg gggggatggc 180  
aggcaactca ttggtgattt ggctccctgag ctgcaatggc atgcagaggt ctcccttctg 240  
tgtctatgtg ctcAACCTGG cggtggtctga ctccctcttc ttattctgca tggcctccat 300  
gctcaggctg gaaacagggc ccctgtcat agtcaacatt tctgcaaaaa tctatgaagg 360  
gatgaggaga atcaagtact ttgcctatac agcaggcctg agecctgtga cagccatcag 420  
cacccagcgc tgccctctccg tgctttccc catctggtat aagtgccacc gcccccgca 480  
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aaggggagccc aaccaggaac tcctccaaag ccccaacccag cccttcccta aaagtaccca 1020  
gcaagcctgc aatgcaaaagg cttgcaccc taaaatgttt gggtcacgtt cctctctggc 1080  
agggagggtt caccactatac accttgcgtt cctaataactaa actaagaggt gaggcaatat 1140  
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1280

<210> 49  
<211> 281  
<212> PRT  
<213> Mus musculus

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<400> 49
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Gln Arg Ser Pro Phe Cys Val Tyr Val Leu Asn Leu Ala Val Ala Asp
20 25 30
Phe Leu Phe Leu Phe Cys Met Ala Ser Met Leu Ser Leu Glu Thr Gly
35 40 45
Pro Leu Leu Ile Val Asn Ile Ser Ala Lys Ile Tyr Glu Gly Met Arg
50 55 60
Arg Ile Lys Tyr Phe Ala Tyr Thr Ala Gly Leu Ser Leu Leu Thr Ala
65 70 75 80
Ile Ser Thr Gln Arg Cys Leu Ser Val Leu Phe Pro Ile Trp Tyr Lys
85 90 95
Cys His Arg Pro Arg His Leu Ser Ser Val Val Ser Gly Ala Leu Trp
100 105 110
Ala Leu Ala Phe Leu Met Asn Phe Leu Ala Ser Phe Phe Cys Val Gln
115 120 125
Phe Trp His Pro Asn Lys His Gln Cys Phe Lys Val Asp Ile Val Phe
130 135 140

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Asn Ser Leu Ile Leu Gly Ile Phe Met Pro Val Met Ile Leu Thr Ser  
145 150 155 160  
Thr Ile Leu Phe Ile Arg Val Arg Lys Asn Ser Leu Met Gln Arg Arg  
165 170 175  
Arg Pro Arg Arg Leu Tyr Val Val Ile Leu Thr Ser Ile Leu Val Phe  
180 185 190  
Leu Thr Cys Ser Leu Pro Leu Gly Ile Asn Trp Phe Leu Leu Tyr Trp  
195 200 205  
Val Asp Val Lys Arg Asp Val Arg Leu Leu Tyr Ser Cys Val Ser Arg  
210 215 220  
Phe Ser Ser Ser Leu Ser Ser Ala Asn Pro Val Ile Tyr Phe Leu  
225 230 235 240  
Val Gly Ser Gln Lys Ser His Arg Leu Gln Glu Ser Leu Gly Ala Val  
245 250 255  
Leu Gly Arg Ala Leu Arg Asp Glu Pro Glu Pro Glu Gly Arg Glu Thr  
260 265 270  
Pro Ser Thr Cys Thr Asn Asp Gly Val  
275 280

<210> 50  
<211> 1170  
<212> DNA  
<213> Mus musculus

<400> 50  
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tgtccaagaa cctgtctgg cacatcccc tctacttcta tcatttcaga ttcttcatgg 780  
ccagtgtca cagtgcagcc aagcctgcca tctactttt ctgggcagc acacctggcc 840  
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<210> 51  
<211> 310  
<212> PRT  
<213> Mus musculus

<400> 51  
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Met Ala Phe Asn Leu Thr Ile Leu Ser Leu Thr Glu Leu Leu Ser Leu  
20 25 30

Gly	Gly	Leu	Leu	Gly	Asn	Gly	Val	Ala	Leu	Trp	Leu	Leu	Asn	Gln	Asn
35							40						45		
Val	Tyr	Arg	Asn	Pro	Phe	Ser	Ile	Tyr	Leu	Leu	Asp	Val	Ala	Cys	Ala
50							55					60			
Asp	Leu	Ile	Phe	Leu	Cys	Cys	His	Met	Val	Ala	Ile	Ile	Pro	Glu	Leu
65							70				75		80		
Leu	Gln	Asp	Gln	Leu	Asn	Phe	Pro	Glu	Phe	Val	His	Ile	Ser	Leu	Thr
							85			90		95			
Met	Leu	Arg	Phe	Phe	Cys	Tyr	Ile	Val	Gly	Leu	Ser	Leu	Leu	Ala	Ala
							100			105		110			
Ile	Ser	Thr	Glu	Gln	Cys	Leu	Ala	Thr	Leu	Phe	Pro	Ala	Trp	Tyr	Leu
							115			120		125			
Cys	Arg	Arg	Pro	Arg	Tyr	Leu	Thr	Thr	Cys	Val	Cys	Ala	Leu	Ile	Trp
							130			135		140			
Val	Leu	Cys	Leu	Leu	Leu	Asp	Leu	Leu	Ser	Gly	Ala	Cys	Thr	Gln	
145							150			155		160			
Phe	Phe	Gly	Ala	Pro	Ser	Tyr	His	Leu	Cys	Asp	Met	Leu	Trp	Leu	Val
							165			170		175			
Val	Ala	Val	Leu	Leu	Ala	Ala	Leu	Cys	Cys	Thr	Met	Cys	Val	Thr	Ser
							180			185		190			
Leu	Leu	Leu	Leu	Arg	Val	Glu	Arg	Gly	Pro	Glu	Arg	His	Gln	Pro	
						195			200		205				
Arg	Gly	Phe	Pro	Thr	Leu	Val	Leu	Leu	Ala	Val	Leu	Leu	Phe	Leu	Phe
						210			215		220				
Cys	Gly	Leu	Pro	Phe	Gly	Ile	Phe	Trp	Leu	Ser	Lys	Asn	Leu	Ser	Trp
225						230			235		240				
His	Ile	Pro	Leu	Tyr	Phe	Tyr	His	Phe	Ser	Phe	Phe	Met	Ala	Ser	Val
						245			250		255				
His	Ser	Ala	Ala	Lys	Pro	Ala	Ile	Tyr	Phe	Phe	Leu	Gly	Ser	Thr	Pro
						260			265		270				
Gly	Gln	Arg	Phe	Arg	Glu	Pro	Leu	Arg	Leu	Val	Leu	Gln	Arg	Ala	Leu
						275			280		285				
Gly	Asp	Glu	Ala	Glu	Leu	Gly	Ala	Gly	Arg	Glu	Ala	Ser	Gln	Gly	Gly
						290			295		300				
Leu	Val	Asp	Met	Thr	Val										
						305			310						

<210> 52

<211> 1519

<212> DNA

<213> Mus musculus

<400> 52

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agattctgat	cccaaacttg	atgatcatca	tctttggact	ggtcgggctg	acaggaaacg	180
ccattgtgtt	ctggctcctg	ggcttccact	tgcgccaggaa	tgccttctca	gtctacatcc	240
taaacttggc	cctggctgac	ttccttctcc	tcctctgtcg	catcatagct	tccacgcaga	300
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tgattctcta	catcgccaggc	ctgagcatgc	tcactgccc	cagcatttgag	cgctgcctgt	420
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gtgctgcaat	ctgggtcctg	tccctgttga	tctgcattct	gaataggtat	ttctgcgggt	540
tcttagatac	caaatatgtt	aatgactatg	ggtgtatggc	atcaaatttc	ttaatgtctg	600
cataacctgat	gtttttgttt	gtagtcctct	gtgtgtccag	cctggctctg	ctggccaggt	660
tgttctgtgg	cactggccgg	atgaagctta	ccagattgtt	cgtgaccatc	atgctgacca	720
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<211> 303  
<212> PRT  
<213> Mus musculus

<400> 53

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<213> *Mus musculus*

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Ile Ala Asp Phe Leu Phe Leu Leu Gly His Ile Ile Ala Ser Thr Met
      35          40          45

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Gln Leu Leu Lys Val Ser Tyr Leu Asn Ile Ile Phe Leu Tyr Arg Phe  
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 Tyr Thr Ile Met Met Val Leu Tyr Asn Thr Gly Leu Thr Met Leu Ser  
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 Ala Ile Asn Thr Lys His Cys Leu Ser Val Leu Cys Pro Ile Trp Tyr  
       85                  90                  95  
 Arg Ser His Cys Thr Lys His Thr Ser Thr Val Ile Cys Ala Ala Ile  
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 Arg Asp Leu Ser Leu Leu Ile Cys Phe Leu Asn Thr Tyr Phe Cys Gly  
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 Leu Leu Asp Thr Lys Tyr Lys Asn Asp Asn Gly Cys Leu Ala Ser Asn  
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 Lys Phe Thr Arg Leu Phe Val Thr Ile Met Leu Thr Val Leu Val Phe  
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 Leu Leu Cys Gly Leu Pro Ser Ala Ile Tyr Trp Phe Leu Leu Ile Trp  
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 <212> DNA  
 <213> Mus musculus

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<211> 305

<212> PRT

<213> Mus musculus

<400> 57

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Phe	Cys	Gly	Ala	Gly	Arg	Met	Lys	Leu	Thr	Arg	Leu	Tyr	Val	Thr	Ile
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<212> DNA  
<213> Mus musculus
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<212> PRT  
<213> Mus musculus

<400> 59  
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35 40 45  
Val Tyr Ile Leu Asn Leu Ala Leu Ala Asp Phe Leu Phe Leu Leu Cys  
50 55 60  
His Ile Ile Asn Ser Thr Met Leu Leu Leu Lys Val Leu Pro Pro Thr  
65 70 75 80  
Gly Ser Leu Phe His Cys Phe Asn Thr Ile Arg Thr Val Leu Tyr Ile  
85 90 95  
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100 105 110  
Val Leu Cys Pro Ile Trp Tyr Arg Cys Arg Arg Glu Asn Thr Ser  
115 120 125  
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145 150 155 160  
Ser Val Cys Leu Val Ser Lys Phe Phe Ile Ser Thr Tyr Pro Met Phe  
165 170 175  
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180 185 190  
Phe Cys Gly Ala Gly Lys Arg Lys Phe Thr Arg Leu Phe Val Thr Ile  
195 200 205  
Ile Leu Thr Ile Leu Val Phe Leu Leu Cys Gly Leu Pro Leu Gly Phe  
210 215 220  
Tyr Trp Phe Leu Leu His Cys Ile Lys Gly Ser Phe Ser Val Leu His  
225 230 235 240  
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245 250 255  
Ala Asn Pro Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg Asp Arg Val  
260 265 270  
Lys His Gln Thr Leu Lys Met Val Leu Gln Asn Ala Leu Gln Asp Thr  
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305

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atgtgtgttt tgcatcgac atcttatca gaacataccc aatgttttg tttgttagtcc 600  
tctgtctgtc cactctggct ctgctggcca ggttgttctg tgggtctggg aagacgaaat 660  
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<210> 61  
<211> 227  
<212> PRT  
<213> Mus musculus

<400> 61  
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Asn Leu Met Ile Ile Ile Phe Gly Leu Val Gly Leu Thr Gly Asn Ala  
20 25 30  
Ile Val Phe Trp Leu Leu Gly Phe His Leu His Arg Asn Ala Phe Leu  
35 40 45  
Val Tyr Ile Leu Asn Leu Ala Leu Ala Asp Phe Leu Phe Leu Leu Cys  
50 55 60  
His Ile Ile Asp Ser Thr Val Phe Leu Leu Lys Val Pro Pro Pro Asn  
65 70 75 80  
Arg Ile Leu Val His Cys Phe Asn Ile Ile Arg Ile Val Leu Tyr Ile  
85 90 95  
Thr Gly Leu Ser Met Leu Ser Ala Ile Ser Met Glu Arg Cys Leu Ser  
100 105 110  
Val Leu Cys Pro Ile Trp Tyr Arg Cys Arg Arg Pro Glu Asn Thr Ser  
115 120 125  
Thr Val Ile Cys Ala Val Ile Trp Ile Leu Ser Leu Leu Phe Cys Ile  
130 135 140  
Leu Asn Gly Tyr Phe Cys Tyr Phe Ser Gly Pro Asn Tyr Val Asn Asp  
145 150 155 160  
Tyr Val Cys Phe Ala Ser Asp Ile Phe Ile Arg Thr Tyr Pro Met Phe  
165 170 175  
Leu Phe Val Val Leu Cys Leu Ser Thr Leu Ala Leu Leu Ala Arg Leu  
180 185 190  
Phe Cys Gly Ala Gly Lys Thr Lys Phe Thr Arg Leu Phe Val Thr Ile  
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Ile Leu Thr Val Leu Val Phe Leu Leu Cys Gly Leu Pro Leu Gly Phe  
210 215 220  
Phe Trp Phe  
225

<210> 62  
<211> 1979  
<212> DNA  
<213> Mus musculus

<400> 62  
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acaacaaatc caatgaacga aaccatccct ggaagtattt acatcgagac cctgatacca 240  
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catcagaacc tagttctc aacaaagtga gcccctggata ctccaaacaca caagaaaagt 1920  
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<210> 63  
<211> 305  
<212> PRT  
<213> *Mus musculus*

<400> 63  
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 20 25 30  
 Ile Val Phe Trp Leu Leu Gly Phe Arg Met His Arg Thr Ala Phe Ser  
 35 40 45  
 Val Tyr Ile Leu Asn Leu Ala Leu Ala Asp Phe Leu Phe Leu Leu Cys  
 50 55 60  
 His Ile Ile Asn Ser Thr Val Leu Leu Leu Gln Val Ser Pro Pro Asn  
 65 70 75 80  
 Ser Thr Leu Val His Cys Phe Asp Thr Ile Arg Met Val Leu Tyr Ile  
 85 90 95  
 Ala Gly Leu Ser Met Leu Ser Ala Ile Ser Thr Glu His Cys Leu Ser  
 100 105 110  
 Val Leu Cys Pro Ile Trp Tyr Arg Cys Arg Arg Pro Glu His Thr Ser  
 115 120 125  
 Thr Val Met Cys Ala Val Ile Trp Val Leu Ser Leu Leu Ile Cys Ile  
 130 135 140  
 Leu Ser Glv Tyr Phe Cys Asn Phe Phe Leu His Lys Tyr Val Tyr Tyr

145	150	155	160
Ser Val Cys Arg Ala Leu Glu Phe Cys Ile Gly Thr Tyr Pro Met Phe			
165	170	175	
Leu Phe Val Val Leu Cys Leu Ser Thr Leu Ala Leu Leu Val Arg Leu			
180	185	190	
Phe Cys Gly Thr Gly Lys Ala Lys Phe Thr Arg Leu Phe Val Thr Ile			
195	200	205	
Met Leu Thr Val Leu Val Phe Leu Leu Cys Gly Leu Pro Leu Cys Phe			
210	215	220	
Phe Trp Phe Leu Val Val Trp Ile Lys Arg Pro Leu Ser Val Leu Asn			
225	230	235	240
Ile Thr Phe Tyr Phe Ala Ser Ile Val Leu Thr Val Val Asn Ser Cys			
245	250	255	
Ala Asn Pro Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg His Arg Leu			
260	265	270	
Lys Gln Gln Asn Leu Lys Met Val Leu Gln Asn Ala Leu Gln Asp Thr			
275	280	285	
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290	295	300	
Pro			
305			

<210> 64  
<211> 1485  
<212> DNA  
<213> Mus musculus

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cctcggcaat ggcacccacg acaacaatc caaagggaaag caaacaatcc ctgggaagta 180  
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cagggaaatgc cattgttgc tggctctgg gcttctgctt gcacaggaat gccttcttag 300  
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ccacagtgc tcttctcaag gttccccac ccaacggtaa tattggtcca ttgcttcaac 420  
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<210> 65  
<211> 300

<212> PRT

<213> Mus musculus

<400> 65

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20 25 30  
Gly Phe Cys Leu His Arg Asn Ala Phe Leu Val Tyr Ile Leu Asn Leu  
35 40 45  
Ala Leu Ala Asp Val Leu Phe Leu Leu Cys His Ile Ile Asn Ser Thr  
50 55 60  
Val Leu Leu Leu Lys Val Pro His Pro Thr Val Ile Leu Val His Cys  
65 70 75 80  
Phe Asn Ile Ile Arg Ile Val Leu Tyr Ile Thr Gly Leu Ser Met Leu  
85 90 95  
Ser Ala Ile Ile Thr Glu Arg Cys Leu Ser Ile Leu Cys Pro Ile Trp  
100 105 110  
Tyr Arg Cys His Arg Pro Glu His Thr Ser Thr Ala Met Cys Ala Val  
115 120 125  
Ile Trp Val Leu Ser Leu Leu Ile Cys Ile Leu Gly Lys Tyr Phe Cys  
130 135 140  
Asn Phe Leu His Lys Tyr Val Asn Tyr Ser Val Cys Leu Ala Leu  
145 150 155 160  
Asp Ser Phe Ile Gly Thr Tyr Pro Met Phe Leu Leu Val Val Leu Cys  
165 170 175  
Leu Ser Thr Met Ala Leu Leu Ala Arg Leu Phe Cys Gly Ser Gly Lys  
180 185 190  
Thr Lys Phe Thr Arg Leu Phe Val Thr Ile Met Leu Thr Val Leu Val  
195 200 205  
Phe Leu Leu Cys Leu Gly Leu Pro Leu Gly Phe Phe Trp Phe Leu Leu  
210 215 220  
Leu Trp Ile Lys Gly Ala Tyr Ser Val Leu Gly Tyr Arg Phe Tyr Phe  
225 230 235 240  
Ala Ser Ile Val Leu Thr Ala Val Asn Ser Cys Ala Asn Pro Ile Ile  
245 250 255  
Tyr Phe Phe Met Gly Ser Phe Arg Gln Arg Leu Gln His Lys Thr Leu  
260 265 270  
Lys Ile Val Leu Gln Ser Ala Leu His Asp Thr Pro Glu Thr Pro Glu  
275 280 285  
Asn Met Val Glu Met Ser Arg Ser Lys Ala Glu Pro  
290 295 300

<210> 66

<211> 1518

<212> DNA

<213> Mus musculus

<400> 66

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actgagaccc tggatccaac acttgatgat catcatcttc ggactggctcg ggctgacagg 240  
aatggcatt gtgttgtggc tcctgggctt ccacttgcaa aggaatgcct ttttagtcta 300  
catcctaaac ttggccctag ctgacttcct ctaccttc tggcacatca tagattccac 360  
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ccaaatttt ctctacatca caggcctgag catgctcagt gccatcagca cagagcgctg 480  
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tgttatttct ctggtctcag ttatgaaaat tactctgtgt gtttgcatt agcgatcatt 660  
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gccaggtgt tctgtggc tgggaagagg aaatttcca gattattcgt gaccatcata 780  
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gaaaacatgg tggagatgtc aagaagtaaa gcagagccat gatgaagagc ctctgcctgg 1080  
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acacaggtaa gaccacca 1518

<210> 67

<211> 303

<212> PRT

<213> Mus musculus

<400> 67

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Asn	Leu	Met	Ile	Ile	Ile	Phe	Gly	Leu	Val	Gly	Leu	Thr	Gly	Asn	Gly
								20		25			30		
Ile	Val	Leu	Trp	Leu	Leu	Gly	Phe	His	Leu	Gln	Arg	Asn	Ala	Phe	Leu
								35		40			45		
Val	Tyr	Ile	Leu	Asn	Leu	Ala	Leu	Ala	Asp	Phe	Leu	Tyr	Leu	Leu	Cys
								50		55			60		
His	Ile	Ile	Asp	Ser	Thr	Met	Leu	Leu	Leu	Lys	Val	Pro	Pro	Pro	Asn
						65		70		75			80		
Trp	Ile	Leu	Val	His	Cys	Phe	Arg	Thr	Ile	Gln	Ile	Phe	Leu	Tyr	Ile
						85		90					95		
Thr	Gly	Leu	Ser	Met	Leu	Ser	Ala	Ile	Ser	Thr	Glu	Arg	Cys	Leu	Ser
						100		105					110		
Val	Leu	Cys	Pro	Ile	Trp	Tyr	Arg	Cys	Arg	Arg	Pro	Glu	Asn	Thr	Ser
						115		120				125			
Thr	Val	Met	Cys	Ala	Val	Ile	Trp	Val	Leu	Ser	Leu	Leu	Ile	Cys	Ile
						130		135				140			
Leu	His	Gly	Tyr	Phe	Cys	Cys	Tyr	Phe	Ser	Gly	Leu	Ser	Tyr	Glu	Asn
						145		150			155			160	
Tyr	Ser	Val	Cys	Phe	Ala	Ser	Ala	Ile	Ile	Ile	Ser	Ser	Tyr	Pro	Thr
						165				170			175		
Phe	Leu	Leu	Val	Val	Leu	Cys	Leu	Ser	Thr	Leu	Ala	Leu	Leu	Ala	Arg
						180		185				190			
Leu	Phe	Cys	Gly	Ala	Gly	Lys	Arg	Lys	Phe	Ser	Arg	Leu	Phe	Val	Thr
						195		200				205			
Ile	Ile	Leu	Thr	Val	Leu	Val	Phe	Leu	Leu	Cys	Gly	Leu	Pro	Trp	Gly
						210		215				220			
Ala	Leu	Trp	Phe	Pro	Leu	Leu	Trp	Ile	Gln	Gly	Gly	Phe	Trp	Lys	Arg
						225		230			235			240	
Leu	Phe	Gln	Ala	Ser	Ile	Val	Leu	Ser	Ser	Val	Asn	Ser	Cys	Ala	Asn

	245	250	255
Pro Ile Ile Tyr Phe Phe Val Gly Ser Phe Arg His Arg Leu Lys His			
260	265	270	
Gln Thr Leu Lys Met Val Leu Gln Asn Ala Leu Gln Asp Thr Pro Glu			
275	280	285	
Thr Thr Glu Asn Met Val Glu Met Ser Arg Ser Lys Ala Glu Pro			
290	295	300	

<210> 68  
<211> 1500  
<212> DNA  
<213> Mus musculus

<400> 68

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<210> 69  
<211> 283  
<212> PRT  
<213> Mus musculus

<400> 69

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20	25	30	
Leu Ala Leu Ala Asp Phe Leu Phe Leu Leu Cys His Ile Ile Asn Ser			
35	40	45	
Thr Val Leu Leu Leu Lys Val Pro Leu Pro Asn Trp Ile Leu Phe His			
50	55	60	
Cys Phe Asn Thr Ile Arg Ile Val Leu Tyr Ile Thr Gly Leu Asn Met			

65	70	75	80
Leu Ser Ala Ile Asn Met Glu His Cys Leu Ser Val Leu Cys Pro Ile			
85	90	95	
Trp Tyr His Cys Cys Arg Pro Glu His Thr Ser Thr Val Met Cys Ala			
100	105	110	
Val Ile Trp Val Leu Ser Leu Leu Ile Cys Ile Leu Asn Glu Tyr Phe			
115	120	125	
Cys Asp Phe Phe Gly Thr Lys Leu Val Asn Tyr Tyr Val Cys Leu Ala			
130	135	140	
Ser Asn Phe Phe Met Gly Ala Tyr Leu Leu Phe Leu Phe Val Val Leu			
145	150	155	160
Cys Leu Ser Thr Leu Ala Leu Leu Ala Arg Leu Phe Cys Gly Ala Gly			
165	170	175	
Asn Thr Lys Phe Thr Arg Phe His Met Thr Ile Leu Leu Thr Pro Leu			
180	185	190	
Phe Phe Leu Leu Cys Gly Leu Pro Phe Ala Ile Cys Phe Leu Leu Phe			
195	200	205	
Lys Ile Lys Asp Asp Phe His Val Phe Tyr Ile Asn Leu Phe Leu Ala			
210	215	220	
Leu Glu Val Leu Thr Ser Ile Asn Ser Cys Asp Asn Pro Ile Ile Tyr			
225	230	235	240
Phe Phe Leu Asp Ser Phe Arg His Gln Glu Lys His Gln Thr Leu Lys			
245	250	255	
Met Val Leu Gln Ser Ala Leu Gln Asp Thr Pro Glu Thr Pro Glu Asn			
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<210> 70  
 <211> 2504  
 <212> DNA  
 <213> Mus musculus

<400> 70  
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 <211> 301  
 <212> PRT  
 <213> Mus musculus

<400> 71  
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     20             25                 30  
 Ile Val Phe Trp Ile Leu His Phe Pro Leu Arg Arg Asn Ala Phe Lys  
     35             40                 45  
 Val Tyr Ile Leu Asn Leu Asp Leu Ala Asp Phe Phe Phe Leu Leu Gly  
     50             55                 60  
 His Thr Ile Asp Ser Ile Leu Leu Leu Asn Val Phe Tyr Pro Ile  
     65             70                 75                 80  
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     85             90                 95  
 Gly Leu Ser Met Leu Thr Ala Ile Ser Thr Glu His Gly Leu Ser Val  
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 Leu Cys Pro Ile Trp Asp Cys Cys His His Pro Glu His Thr Ser Ala  
     115            120                 125  
 Ala Met Cys Ala Val Ile Trp Val Leu Ser Leu Leu Ile Cys Ile Leu  
     130            135                 140  
 Asn Ser Tyr Phe Gly Phe Leu His Ser Lys Tyr Glu Asn Asp Asn Gly  
     145            150                 155                 160  
 Cys Leu Ala Leu Asn Phe Phe Thr Ser Ala Tyr Leu Met Phe Leu Phe  
     165            170                 175  
 Val Asp Leu Cys Leu Ser Ser Leu Ala Leu Ala Arg Leu Phe Cys  
     180            185                 190  
 Asp Val Gly Gln Met Lys Leu Thr Arg Tyr Val Thr Ile Leu Leu Thr  
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 Ala Leu Val Phe Leu Leu Cys Arg Leu Asn Phe Gly Ile Tyr Trp Phe  
     210            215                 220  
 Leu Leu Cys Lys Ile Lys Asp Ala Phe His Val Phe Thr Leu Val Phe  
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Tyr	Leu	Glu	Ser	Leu	Val	Met	Thr	Ala	Ile	Asn	Ser	Cys	Ala	Asn	Ser
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Ile	Ile	Tyr	Phe	Phe	Thr	Gly	Ser	Phe	Arg	Leu	Arg	Leu	Gln	His	Gln
						260			265				270		
Thr	Leu	Lys	Met	Val	Leu	Gln	Arg	Thr	Met	Asp	Thr	Pro	Glu	Thr	Pro
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						290			295			300			

<210> 72  
<211> 2758  
<212> DNA  
<213> Mus musculus

<400> 72  
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<210> 73  
<211> 304  
<212> PRT  
<213> Mus musculus

<400> 73  
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Ile Val Phe Trp Ile Leu Gly Phe Arg Phe His Arg Asn Ala Ile Leu  
35 40 45  
Val Tyr Ile Leu Asn Leu Ala Leu Ala Asp Phe Phe Phe Leu Leu Cys  
50 55 60  
His Ile Ile Asn Ser Thr Met His Leu Phe Lys Val Arg Pro His Asn  
65 70 75 80  
Ser Ile Phe Ile His Cys Phe Asp Thr Ile Arg Thr Val Leu Tyr Ile  
85 90 95  
Thr Gly Leu Ser Met Leu Ser Ala Ile Ser Thr Asp Arg Cys Leu Ser  
100 105 110  
Val Leu Cys Pro Ile Trp Tyr Arg Cys His Arg Pro His Thr Ser Thr  
115 120 125  
Ile Met Cys Val Val Ile Trp Val Leu Ser Leu Leu Ile Cys Leu Leu  
130 135 140  
Asn Arg Tyr Phe Cys Asp Leu Phe Gly Pro Lys Tyr Glu Ile Asn Ser  
145 150 155 160  
Val Cys Gln Ala Ser Glu Phe Phe Ile Arg Ile Tyr Pro Ile Phe Leu  
165 170 175  
Phe Val Val Leu Cys Phe Ser Thr Leu Thr Leu Leu Ala Arg Leu Phe  
180 185 190  
Cys Gly Ala Gly Lys Lys Lys Phe Thr Arg Leu Phe Met Thr Ile Met  
195 200 205  
Val Thr Ile Leu Val Phe Leu Leu Cys Gly Leu Pro Leu Gly Phe Leu  
210 215 220  
Trp Phe Leu Leu Pro Trp Ile Glu Gly Phe Ser Ile Leu Asp Tyr  
225 230 235 240  
Arg Phe Phe Leu Ala Ser Leu Val Leu Thr Ala Val Asn Ser Cys Ala  
245 250 255  
Asn Pro Ile Ile Tyr Phe Phe Val Gly Ser Tyr Arg His Pro Leu Lys  
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<210> 74  
<211> 1738  
<212> DNA  
<213> Mus musculus

<400> 74

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<210> 75

<211> 303

<212> PRT

<213> Mus musculus

<400> 75

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								20			25			30		
Phe	Val	Phe	Leu	Leu	Gly	Phe	His	Leu	His	Arg	Asn	Ala	Phe	Leu	Val	
								35			40			45		
Tyr	Ile	Leu	Asn	Leu	Ala	Leu	Thr	Asp	Phe	Leu	Phe	Leu	Cys	His		
								50			55			60		
Ile	Ile	Asn	Ser	Thr	Val	Ile	Leu	Leu	Asn	Val	Pro	Leu	Pro	Asn	Met	
								65			70			75		80
Ile	Leu	Val	His	Cys	Phe	Ser	Thr	Ile	Arg	Ile	Phe	Leu	Asn	Ile	Thr	
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Gly	Leu	Ser	Ile	Leu	Ser	Ala	Ile	Ser	Thr	Glu	Arg	Cys	Leu	Ser	Val	
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Leu	Cys	Pro	Ile	Trp	Tyr	Arg	Cys	His	His	Pro	Glu	His	Thr	Ser	Thr	
								115			120			125		
Val	Met	Cys	Ala	Val	Ile	Val	Leu	Ser	Leu	Leu	Ile	Cys	Thr	Leu	Tyr	
								130			135			140		
Arg	Tyr	Phe	Cys	Phe	Phe	Gly	Pro	Lys	Tyr	Val	Phe	Asp	Ser	Val		
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Cys	Leu	Ala	Thr	Thr	Tyr	Phe	Ile	Arg	Thr	Tyr	Pro	Met	Phe	Leu	Phe
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Met	Val	Leu	Cys	Leu	Ser	Thr	Leu	Ala	Leu	Leu	Ala	Arg	Leu	Phe	Cys
					180				185						190
Gly	Ala	Gly	Lys	Lys	Lys	Phe	Thr	Arg	Leu	Phe	Val	Thr	Ile	Met	Leu
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Thr	Val	Leu	Val	Phe	Leu	Leu	Cys	Gly	Met	Pro	Leu	Gly	Phe	Phe	Trp
					210		215				220				
Phe	Val	Phe	Pro	Trp	Ile	Asn	Cys	Asp	Phe	Ser	Val	Leu	Asp	Tyr	Arg
					225		230			235					240
Leu	Phe	Leu	Ala	Ser	Ile	Val	Leu	Thr	Ala	Val	Asn	Ser	Tyr	Gly	Asn
						245			250						255
Pro	Ile	Ile	Tyr	Phe	Phe	Val	Gly	Ser	Phe	Arg	Asn	Arg	Leu	Lys	His
						260		265							270
Gln	Thr	Leu	Gln	Lys	Val	Leu	Gln	Ser	Ala	Leu	His	Asp	Thr	Pro	Glut
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<211> 1011  
<212> DNA  
<213> *Mus musculus*

<400> 76  
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<210> 77  
<211> 274  
<212> PRT  
<213> *Mus musculus*

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      20          25          30
Tyr Ile Leu Asn Ala Gly Ala Asn Phe Leu Phe Leu Cys Pro Tyr Ile
      35          40          45
Val Phe Ser Leu Val Thr Ile Thr Val Asn Phe His Ser Ile Asn Ser

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50	55	60
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65	70	75 80
Gly Val Ser Met Ile Thr Ala Ile Ser Val Glu	Tyr Trp Leu Ser Val	
85	90	95
Ile Trp Ser Asn Trp Tyr His Gly Arg His Pro	Lys His Thr Ser Ala	
100	105	110
Phe Ile Cys Thr Leu Leu Trp Ala Val Ser Leu	Leu Ser Leu Pro	
115	120	125
His Glu Ile Ile Cys Gly Leu Leu Asp His Ile	Tyr Asn Trp Asp Met	
130	135	140
Cys Trp Lys Cys Lys Leu Ile Val Val Trp	Leu Leu Ile Glu Phe	
145	150	155 160
Val Val Leu Ser Gln Ser Asn Gln Ala Met	Met Phe Arg Ile Phe Cys	
165	170	175
Gly Ser Gln Gln Thr Pro Met Thr Arg Leu	Phe Val Thr Ile Val Leu	
180	185	190
Thr Ala Leu Val Val Leu Ile Cys Gly Phe	Pro Leu Gly Ile Tyr Ile	
195	200	205
Tyr Phe Leu Tyr Trp Thr Thr Asp Val Tyr	Phe Ile Met Pro Cys Asn	
210	215	220
Ser Phe His Glu Thr Ile Leu Leu Ser Ala Val	Asn Ser Cys Ala	
225	230	235 240
Asn Pro Ile Ile Cys Leu Leu Val Gly Ser Ile	Lys His Cys Gln Phe	
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Gln Cys Gly Thr Leu Arg Leu Ile Leu Gln Arg	Ala Ile Gln Asp Thr	
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Pro Glu		

<210> 78  
<211> 1358  
<212> DNA  
<213> Mus musculus

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<211> 273

<212> PRT

<213> Mus musculus

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Phe	Thr	Trp	Ala	Leu	Phe	Ser	Val	Asn	Val	Thr	Ile	Leu	Ala	Tyr	Leu
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Ala	Gly	Val	Ser	Met	Ile	Thr	Ala	Ile	Ser	Val	Glu	Tyr	Trp	Leu	Ser
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Val	Leu	Trp	Pro	Thr	Trp	Tyr	His	Ala	Gln	Arg	Pro	Lys	His	Thr	Ser
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<400> 82

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Leu Ile Phe Ser Phe Pro Phe Trp Ile Tyr Trp Leu Leu Asp Gln Arg  
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<211> 273

<212> PRT

<213> Mus musculus

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 210 215 220  
 Glu Glu Leu Phe Leu Ser Cys Ile Asn Ser Cys Ala Asn Pro Ile Ile  
 225 230 235 240  
 Tyr Phe Leu Val Gly Phe Ile Arg Gln Arg Lys Phe Gln Gln Lys Ser  
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<210> 88  
 <211> 1883  
 <212> DNA  
 <213> Mus musculus

<400> 88  
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<210> 89

<211> 263

<212> PRT

<213> Mus musculus

<400> 89

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Tyr Val Leu Asn Leu Ser Cys Ala Asp Phe Leu Gln Ile Cys Thr Gln  
35 40 45  
Phe Val His Ser Pro Ala Val Phe Leu Lys Ile Leu Met Ile Tyr Tyr  
50 55 60  
His Phe Ile Leu Thr Gly Phe Met Ile Ala Leu Ala Gly Leu Cys Met  
65 70 75 80  
Ile Ser Thr Ile Ser Ala Glu His Cys Leu Ser Val Met Trp Pro Ile  
85 90 95  
Trp Tyr His Cys Arg Pro Arg His Thr Ser Ala Val Met Cys Ala Leu  
100 105 110  
Leu Trp Val Phe Ser Ile Leu Leu Ile Leu Phe Val Gln Gly Cys  
115 120 125  
Gly Phe Leu Leu Ser Tyr Tyr Glu His Asn Phe Cys Ile Ile Cys His  
130 135 140  
Tyr Ile Ala Thr Ala Leu Ile Ile Val Leu Ser Val Val Ser Phe Val  
145 150 155 160  
Ser Ser Leu Ala Leu Phe Val Thr Met Phe Cys Val Ser Leu Arg Ile  
165 170 175  
Pro Val Thr Met Phe Tyr Val Ser Ile Ala Leu Thr Leu Met Val Phe  
180 185 190  
Ile Phe Phe Gly Met Pro Ile Gly Ile Cys Thr Phe Leu Leu Thr Met  
195 200 205  
Phe Met Asp Leu His Ser Ser His Thr Met Phe Leu Lys His Ser  
210 215 220  
Cys Val Asn Ser Cys Ala Asn Pro Ile Ile Tyr Ser Leu Leu Gly Ser  
225 230 235 240  
Val Arg His Arg Arg Leu Gln Cys Gln Ser Leu Lys Gln Leu Leu Gln  
245 250 255  
Arg Thr Met Asp Ser Ser Glu  
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<210> 90

<211> 1219

<212> DNA

<213> Mus musculus

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<211> 270  
<212> PRT  
<213> Mus musculus

<400> 91  
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Tyr Val Leu Asn Leu Ala Leu Asp Ser Phe Phe Leu Gly Cys Asp  
35 40 45  
Phe Ile Glu Phe Leu Leu Arg Ile Ile Asp Phe Ile Tyr Ala His Lys  
50 55 60  
Leu Ser Lys Asp Ile Leu Gly Asn Thr Ala Ile Ile Pro Tyr Ile Ala  
65 70 75 80  
Gly Gln Asn Val Leu Ser Ala Ile Ser Met Glu His Cys Leu Ser Val  
85 90 95  
Leu Trp Pro Ile Trp Tyr His His Pro Arg Asn Met Ser Ala  
100 105 110  
Ile Ile Cys Ala Leu Ile Trp Val Leu Tyr Phe Leu Met Gly Ile Leu  
115 120 125  
His Trp Phe Phe Ser Val Phe Leu Gly Glu Ala His His His Leu Arg  
130 135 140  
Lys Lys Val Asp Phe Thr Ile Thr Ala Phe Leu Ile Phe Leu Phe Met  
145 150 155 160  
Leu His Ser Val Ser Ser Leu Ala Leu Leu Leu Arg Ile Leu Cys Gly  
165 170 175  
Ser Arg Arg Lys Pro Leu Ser Arg Leu Tyr Val Thr Ile Ala Leu Thr  
180 185 190  
Val Met Val Tyr Leu Ile Ser Gly Leu Pro Leu Gly Leu Tyr Leu Phe  
195 200 205  
Leu Leu Tyr Trp Phe Gly Val His Leu His His Pro Ser Cys His Asn  
210 215 220

Tyr Gln Val Thr Ser Val Leu Pro Cys Val Asn Ser Tyr Asn Asn Pro  
225 230 235 240  
Ile Ile Tyr Phe Ile Val Gly Ser Phe Arg Pro Leu Arg Lys His Ser  
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Leu Gln Thr Ile Leu Lys Arg Ala Leu Glu Asp Thr Pro Glu  
260 265 270

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<211> 1178  
<212> DNA  
<213> Mus musculus

<400> 92  
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<211> 243  
<212> PRT  
<213> Mus musculus

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20 25 30  
Tyr Val Leu Asn Leu Ala Asp Ser Val Phe Leu Cys Cys His  
35 40 45  
Phe Ile Asp Ser Leu Leu Cys Ile Ile Asp Phe Tyr Leu Cys Pro Asp  
50 55 60  
Ala Asp Thr Leu Gly Asn Ala Glu Ile Ile Pro Tyr Ile Thr Gly Leu  
65 70 75 80  
Ser Ile Leu Ser Ala Ile Ser Met Glu Asp Tyr Leu Ser Val Leu Trp  
85 90 95  
Pro Ile Trp Tyr His Cys His His Pro Arg Asn Met Ser Thr Ile Leu  
100 105 110  
Cys Ala Leu Ile Trp Val Leu Ser Phe Leu Met Gly Ile Leu Asp Trp  
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<210> 94  
<211> 2416  
<212> DNA  
<213> *Mus musculus*

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<211> 269  
<212> PRT  
<213> Mus musculus

<400> 95  
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Val Leu Asn Leu Ala Leu Gly Asp Ser Phe Phe Leu Cys Cys His Phe  
35 40 45  
Ile Asp Ser Leu Leu Trp Ile Ile Asp Phe Ile Tyr Ala His Lys Leu  
50 55 60  
Asn Lys Asp Ile Leu Gly Asn Ala Ala Ile Ile Pro Tyr Met Ala Gly  
65 70 75 80  
His Ser Leu Leu Ser Ala Ile Ser Met Glu His Cys Leu Ser Val Leu  
85 90 95  
Trp Pro Ile Trp Tyr Asp Phe His His Gln Ser Asn Met Ser Ala Ile  
100 105 110  
Leu Tyr Ala Leu Ile Trp Val Leu Ser Ile Leu Ile Gly Ile Leu Asp  
115 120 125  
Trp Phe Phe Leu Gly Phe Leu Gly Glu Thr Asn His His Leu Cys Glu  
130 135 140  
Asn Val Ala Phe Ile Ile Thr Ala Phe Leu Ile Phe Leu Phe Met Leu  
145 150 155 160  
Leu Ser Val Ser Ser Leu Ala Leu Leu Leu Arg Ile Leu Cys Gly Pro  
165 170 175  
Arg Lys Lys Pro Leu Ser Arg Leu Val Thr Ile Ser Leu Thr Val Met  
180 185 190  
Val Tyr Leu Ile Cys Gly Leu Pro Leu Gly Leu Tyr Phe Phe Leu Leu  
195 200 205  
His Trp Phe Gly Val His Leu His Tyr Pro Ser Cys His Ile Tyr Gln  
210 215 220  
Val Thr Ala Val Leu Ser Cys Val Asn Ser Ser Ala Asn Pro Ile Ile  
225 230 235 240  
Tyr Phe Ile Val Gly Ser Phe Arg His Cys Arg Lys Cys Cys Ser Phe  
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Gln Thr Ile Leu Asn Arg Ala Leu Lys Asp Thr Pro Glu  
260 265

<210> 96  
<211> 1954  
<212> DNA  
<213> Mus musculus

<400> 96

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 ccatccctcc cacttctact tctatcctag gcattccctt acactggggt atagggcctt 1860  
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<210> 97  
 <211> 272  
 <212> PRT  
 <213> Mus musculus

<400> 97  
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 20 25 30  
 Tyr Val Leu Asn Leu Ala Leu Asp Ser Phe Phe Leu Ser Cys Gln  
 35 40 45  
 Phe Ile Asp Ser Leu Leu Trp Ile Leu Asp Phe Ile Ala His Lys Leu  
 50 55 60  
 Ser Lys Asp Ile Leu Trp Asn Ala Ala Ile Ile Pro Asn Asn Ala Gly  
 65 70 75 80  
 Leu Ser Tyr Leu Ser Ala Ile Ser Met Glu His Cys Leu Pro Val Leu  
 85 90 95  
 Trp Pro Ile Trp His His Cys His His Thr Arg Asn Met Ser Ala Ile  
 100 105 110  
 Ile Cys Ala Leu Ile Trp Val Leu Ser Phe Leu Met Gly Ile Leu Asp  
 115 120 125  
 Tyr Phe Ser Gly Phe Leu Gly Glu Thr His His Gln Leu Trp Lys Asn

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145	150	155	160	
Met Leu Leu Ser Gly Ser Ser Leu Ala Leu Arg Leu Arg Ile Leu Cys				
	165	170	175	
Gly Ser Arg Arg Lys Pro Leu Ser Leu Leu Tyr Val Ile Ile Ser Leu				
	180	185	190	
Thr Val Met Val Tyr Leu Ile Cys Gly Leu Pro Val Gly Leu Tyr Leu				
	195	200	205	
Phe Leu Leu Asn Trp Phe Gly Val His Leu His His Pro Ile Cys His				
	210	215	220	
Ile Tyr Gln Val Thr Ala Leu Leu Pro Phe Val Asn Ser Phe Ala Lys				
	225	230	235	240
Pro Ile Ile Ser Phe Ile Val Gly Ser Phe Arg His Cys Arg Lys His				
	245	250	255	
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<211> 1893  
<212> DNA  
<213> *Mus musculus*

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<210> 99  
<211> 262  
<212> PRT  
<213> *Mus musculus*

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 Tyr Val Leu Asn Leu Ala Leu Gly Asp Ser Phe Phe Cys Cys His Phe  
 35 40 45  
 Ile Asp Ser Leu Leu Trp Ile Ile Asp Phe Ile Tyr Ala His Lys Leu  
 50 55 60  
 Ser Lys Asp Ile Leu Gly Asn Val Ala Ile Val Pro Tyr Ile Ala Gly  
 65 70 75 80  
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 85 90 95  
 Pro Ile Trp Tyr His Cys His His Pro Arg Asn Met Ser Ala Ile Leu  
 100 105 110  
 Cys Ala Leu Ile Trp Val Leu Phe Phe Leu Met Gly Ile Leu Gly Gly  
 115 120 125  
 Ser Ser Asp Phe Trp Val Lys Leu Ile Ile Asp Phe Ile Ile Pro Ala  
 130 135 140  
 Phe Leu Ile Phe Phe Leu Phe Met Leu Leu Ser Gly Ser Ile Leu Ala  
 145 150 155 160  
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 165 170 175  
 Leu Tyr Val Asn Ile Ser Leu Thr Val Met Val Tyr Leu Ile Cys Gly  
 180 185 190  
 Leu Pro Leu Gly Leu Tyr Leu Val Leu Leu Tyr Cys Phe Gly Val His  
 195 200 205  
 Leu His His Pro Ser Pro His Ile Tyr Gln Val Thr Val Val Leu Ser  
 210 215 220  
 Tyr Val Asp Ser Ser Ala Asn His Ile Phe Tyr Phe Leu Ala Gly Ser  
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<211> 1290  
<212> DNA  
<213> Mus musculus
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ccctgatatac ttcatcttc ctgtgttatt ttaAGCCCTG ggggagataca aatctgtac 240
ttccctttct gtggttacag gtagagcagg aaatggatcc taccctgacc atgagagaag 300
ggaatcattt ccatgtgatt aaaaggtcct gagttataca ctggaagtat gacccagact 360
acagagtata cacaagctct gaatttgaat ccacagtcca gaattcttga tcaatgtatgt 420
catqttactc tccttttttataaaatgtat ttttagcaagc catattgaca acaaatatcta 480
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ctcagggaca ccactggaa atttgtgcgc atggatccaa tcatacttatac ccacaacaca 600  
gaatcacact gctgaatgaa actgtcaac ccaacttcag tccaatcctg actctgtctc 660  
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<210> 101

<211> 207

<212> PRT

<213> Mus musculus

<400> 101

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							20		25					30	
Val	Leu	Asn	Leu	Ala	Leu	Ala	Asp	Ser	Phe	Phe	Leu	Ser	Cys	Gln	Phe
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Ile	Asp	Ser	Leu	Leu	Ser	Ile	Asp	Phe	Leu	Tyr	Ala	Tyr	Lys	Leu	Ser
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Lys	Asp	Ile	Leu	Gly	Asn	Ala	Ala	Ile	Val	Pro	Tyr	Ile	Ala	Gly	Leu
		65					70				75			80	
Ser	Ile	Leu	Ser	Ala	Ile	Ser	Met	Glu	His	Cys	Leu	Ser	Val	Trp	Gln
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Met	Arg	Tyr	His	Cys	His	Tyr	Pro	Arg	Asn	Met	Ser	Ala	Ile	Leu	Cys
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Ala	Leu	Ile	Trp	Val	Leu	Ser	Phe	Leu	Met	Asp	Ile	Leu	Asp	Trp	Phe
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Asp	Phe	Ile	Ile	Thr	Ala	Phe	Leu	Ile	Phe	Leu	Phe	Met	Leu	Leu	Ser
		145					150				155			160	
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							165			170			175		
Lys	Pro	Leu	Ser	Arg	Leu	Tyr	Ile	Ile	Ser	Leu	Thr	Val	Met	Val	
							180			185			190		
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<210> 102

<211> 1389

<212> DNA

<213> Mus musculus

<400> 102

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aacttcagta caatactcac gctgtcctt ctggcctcg tcactgtcct cgtgaaactg 180  
gcaggaaaca ccattgtact ctggcctcg ggattccgca tgcacaggaa agccatctca 240  
gtctatgtcc tcaatctggc tctggcagac tccttcttct gctgccattt cattgactct 300  
ctgctatgga tcactgactt catctatacc cataaattaa gcaaagatat cttacgcaat 360  
gcagaatttgc ttccctatata cgcaagactg agcgtcctca gtgttattag aatggagcac 420  
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atcctatgtg ccctaattctg gggtctgttc tttctcatgg gcattccttga ttggttttc 540  
tttaggattcc tgggtgagac tcatcatcat ttgtggaaaa atattgactt tattataacct 600  
gcatttctga ttttttaat gctgtttct gggtccactc tggccctact gctgaggata 660  
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aagcatttgtt ccctctaaac tattctaaag aggaccctgg agaacattcc tgaggaggat 960  
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<210> 103

<211> 206

<212> PRT

<213> Mus musculus

<400> 103

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								20		25			30		
Phe	Pro	Tyr	Ile	Ala	Arg	Leu	Ser	Val	Leu	Ser	Ala	Ile	Arg	Met	Glu
								35		40			45		
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								50		55			60		
Arg	Asn	Ile	Ser	Ala	Ile	Leu	Cys	Ala	Leu	Ile	Trp	Val	Leu	Phe	Phe
								65		70			75		80
Leu	Met	Gly	Ile	Leu	Asp	Trp	Phe	Phe	Leu	Gly	Phe	Leu	Gly	Glu	Thr
								85		90			95		
His	His	His	Leu	Trp	Lys	Asn	Ile	Asp	Phe	Ile	Ile	Pro	Ala	Phe	Leu
								100		105			110		
Ile	Phe	Leu	Met	Leu	Leu	Ser	Gly	Ser	Thr	Leu	Ala	Leu	Leu	Arg	
								115		120			125		
Ile	Leu	Cys	Gly	Ser	Arg	Arg	Lys	Leu	Leu	Ser	Arg	Leu	Tyr	Val	Thr
								130		135			140		
Ile	Ser	Leu	Thr	Val	Met	Val	Tyr	Leu	Ile	Cys	Gly	Met	Pro	Leu	Gly
								145		150			155		160
Leu	Tyr	Leu	Phe	Leu	Leu	Tyr	Trp	Phe	Gly	Ile	His	Leu	His	Tyr	Pro
								165		170			175		
Ser	Cys	His	Ile	Tyr	Gln	Val	Thr	Ala	Leu	Leu	Ser	Tyr	Val	Asp	Ser
								180		185			190		
Ser	Ala	Asn	His	Ile	Phe	Tyr	Phe	Leu	Val	Gly	Ser	Phe	Arg		
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<210> 104  
<211> 1420  
<212> DNA  
<213> Mus musculus

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tcattttaaag ccctggggag gtaaatgtga tgcttccctt tctggagttt ccaagggtggc 420  
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cctgagttat acacaggaag aatgatgcag actatagagt aaacacaagc tctaaatgg 540  
aatccacagt ccagaattct taatccatg tggcatgtt acttccctt tatttataaa 600  
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<210> 105  
<211> 200  
<212> PRT  
<213> Mus musculus

<400> 105  
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20 25 30  
Leu Asn Gln Ala Leu Ala Asp Ser Phe Phe Leu Cys Cys His Phe Leu  
35 40 45  
Asp Ser Met Leu Gln Ile Ile Asp Phe Tyr Gly Ile Tyr Gly His Lys  
50 55 60  
Leu Ser Lys Asp Ile Leu Gly Asn Ala Ala Ile Ile Pro Tyr Ile Thr  
65 70 75 80  
Gly Leu Ser Val Leu Ser Ala Ile Ser Thr Asp Leu Ser Ile Leu Trp  
85 90 95  
Pro Ile Trp Tyr His Cys His His Pro Arg Asn Met Ser Gly Ile Ile  
100 105 110  
Cys Ala Leu Ile Trp Val Leu Ser Phe Leu Met Gly Ile Leu Asp Trp  
115 120 125  
Phe Phe Ser Gly Phe Leu Gly Glu Thr His Tyr His Leu Trp Glu Asn  
130 135 140  
Val Asp Phe Ile Ile Thr Ala Phe Phe Ile Val Cys Phe Ser Leu Gly  
145 150 155 160

Leu Leu Met Arg Ile Leu Cys Gly Gly Ile Pro Leu Ser Arg Leu Tyr  
165 170 175  
Val Thr Ile Ser Leu Thr Val Met Gly Tyr Leu Ile Cys Gly Leu Pro  
180 185 190  
Leu Gly Leu Tyr Leu Ser Leu Leu  
195 200

<210> 106

<211> 730

<212> DNA

<213> Mus musculus

<400> 106

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cctgacacca ttctttctgg tcctcatcac tgtactgtg gaattggcag gggAACACCA 180  
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<210> 107

<211> 198

<212> PRT

<213> Mus musculus

<400> 107

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20 25 30  
Tyr Val Leu Asn Leu Ala Asp Ser Phe Val Phe Leu Cys Cys  
35 40 45  
His Phe Ile Asp Ser Leu Leu Gln Asn Ile Asp Phe Ile Asn Ala His  
50 55 60  
Lys Leu Ser Lys His Ile Leu Gly Asn Ala Ala Ile Ile Pro Tyr Ile  
65 70 75 80  
Ala Gly Leu Ser Leu Leu Ser Ala Ile Ser Met Glu His Cys Leu Phe  
85 90 95  
Ile Leu Trp Pro Ile Trp Tyr His Cys His His Met Ser Ala Ile Ile  
100 105 110  
Cys Ala Leu Ile Trp Val Pro Ser Phe Leu Lys Gly Ile Leu Asn Leu  
115 120 125  
Phe Phe Ser Gly Phe Leu Gly Glu Thr His His His Leu Trp Glu Asn  
130 135 140  
Ile Asp Phe Ile Ile Thr Ala Phe Leu Ile Phe Leu Phe Met Leu Leu  
145 150 155 160  
Cys Gly Cys Thr Leu Ala Leu Glu Leu Arg Ile Leu Cys Gly Ser Arg  
165 170 175  
Lys Lys Pro Leu Ser Arg Leu Val Thr Ile Ser Leu Thr Ala Met Val

180 185 190  
Tyr Leu Ile Cys Gly Leu  
195

<210> 108  
<211> 847  
<212> DNA  
<213> Mus musculus

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aagggtatca aatatggctt gtttcctca gggacaccaa tgggtgattt gttagcatg 180  
gatccaacca tctcatccca caacacagaa tcacaccact gaatgaacct ggcccattcc 240  
gactgcaatc caatccttgt tctgtcctt ctggctctca tcgctgtcct ggtggaactg 300  
gcaggaaaca ccattgttct ctggctctg ggattccgca tgcacaggaa acccatctca 360  
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aatgcagcaa ttgttccctt tattcacaggg ctgagggtcc tcagtgttat tagcatggag 540  
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actgcatttc tgatttttt attatgtttt ctctttaggt ccagtctggc cctactgcgg 780  
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<210> 109  
<211> 192  
<212> PRT  
<213> Mus musculus

<400> 109  
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Tyr Val Leu Asn Leu Ala Leu Asp Ser Phe Phe Leu Cys Cys His  
35 40 45  
Phe Ile Asp Ser Leu Leu Gln Ile Ile Asp Phe Thr Tyr Ala His Lys  
50 55 60  
Leu Ser Lys Asp Ile Leu Asp Asn Ala Ala Ile Val Pro Phe Ile Thr  
65 70 75 80  
Gly Leu Arg Val Leu Ser Ala Ile Ser Met Glu His Cys Leu Ser Val  
85 90 95  
Leu Trp Leu Ile Trp Tyr His Cys His His Leu Arg Asn Met Ser Ala  
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Ile Leu Cys Ala Leu Ile Trp Val Leu Ser Phe Leu Met Ser Ile Leu  
115 120 125  
Asp Phe Phe Ser Glu Phe Leu His Glu Thr His His His Leu Trp Glu  
130 135 140  
Asn Val Asp Phe Ile Ile Thr Ala Phe Leu Ile Phe Leu Phe Met Leu  
145 150 155 160  
Leu Phe Arg Ser Ser Leu Ala Leu Leu Arg Arg Ile Leu Cys Gly Ser  
165 170 175  
Arg Arg Lys Tyr Leu Ser Thr Leu Tyr Val Ile Ile Ser Leu Thr Val  
180 185 190